



STIC Search Report

EIC 1700

STIC Database Tracking Number: 159326

TO: Dawn Garrett

Location: 10C79

Art Unit : 1774

July 29, 2005

Case Serial Number: 10/615775

From: Usha Shrestha

Location: EIC 1700

REMSEN 4B28

Phone: 571/272-3519

usha.shrestha@uspto.gov

Search Notes

Access DB# 159326

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: DAWN GARRETT Examiner #: 76107 Date: 7/14/2005
 Art Unit: 1774 Phone Number: 2-1523 Serial Number: 10/615,775
 Mail Box and Bldg/Room Location: REMSEN 10C79 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

 Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: DIARYLAMINO GP-CONTG. COPOLYMER OF D,L-GLUTAMIC ACID AND METHYL

Inventors (please provide full names): SHINJI KATO JUL 14 RECD

Earliest Priority Filing Date: 7/10/2003 Pat. & T.M. Office

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search formula (1) of attached claims
 where A_1 is formula 2 and J is formula (4)

$X_1 = H$

$X_2 = CH_3$

$X_3 = H$

$X_4 = H$

$X_5 = H$

$X_6 = H$

$X_7 = H$

$X_8 = OCH_3$

$X_9 = H$

$X_{10} = H$

$R_1 = H$

$R_2 = CO_2H$

$R_3 = H$

$R_4 = CO_2CH_3$

NOTE:
 If there are not many hits with this specific formula, please broaden search to include additional possibilities for the R groups.

Thank you.

STAFF USE ONLY

Searcher: <u>luka</u>	Type of Search	Vendors and cost where applicable
Searcher Phone #: _____	NA Sequence (#) _____	STN <u>388.31</u>
Searcher Location: _____	AA Sequence (#) _____	Dialog _____
Date Searcher Picked Up: <u>7/28/05</u>	Structure (#) <u>2</u>	Questel/Orbit _____
Date Completed: <u>7/29/05</u>	Bibliographic _____	Dr. Link _____
Searcher Prep & Review Time: <u>60</u>	Litigation _____	Lexis/Nexis _____
Clerical Prep Time: <u>50</u>	Fulltext _____	Sequence Systems _____
Online Time: <u>75</u>	Patent Family _____	WWW/Internet _____
	Other _____	Other (specify) _____

=> fil reg
FILE 'REGISTRY' ENTERED AT 16:34:29 ON 28 JUL 2005

=> d his ful

(FILE 'HOME' ENTERED AT 15:22:57 ON 28 JUL 2005)

FILE 'HCAPLUS' ENTERED AT 15:23:07 ON 28 JUL 2005

L1 1 SEA ABB=ON PLU=ON US20050008893/PN
D SCAN
SEL RN

FILE 'REGISTRY' ENTERED AT 15:23:37 ON 28 JUL 2005

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108-31-6/BI OR 108-44-1/BI OR 1205-64-7/BI OR 13822-56-
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I OR 220716-53-0/BI OR 220716-54-1/BI OR 220716-56-3/BI
OR 220716-57-4/BI OR 220716-58-5/BI OR 220716-60-9/BI
OR 220716-62-1/BI OR 220716-63-2/BI OR 227176-02-5/BI
OR 3052-50-4/BI OR 372-19-0/BI OR 50926-11-9/BI OR
522632-81-1/BI OR 522632-82-2/BI OR 591-17-3/BI OR
709044-63-3/BI OR 709044-64-4/BI OR 723339-95-5/BI OR
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824430-27-5/BI OR 824430-28-6/BI OR 824430-29-7/BI OR
92-86-4/BI)
D SCAN

FILE 'LREGISTRY' ENTERED AT 15:34:30 ON 28 JUL 2005

L3 STR
L4 STR

FILE 'REGISTRY' ENTERED AT 15:37:43 ON 28 JUL 2005

L5 1 SEA SSS SAM L3 AND L4
D SCAN
L6 SCR 2043
L7 5 SEA SSS SAM L3 AND L4 AND L6
D SCAN
D QUE STAT L7
L8 STR L4
L9 2 SEA SSS SAM L3 AND L8 AND L6
D SCAN
D SCAN L7
D QUE STAT L9
L10 297 SEA SSS FUL L3 AND L8 AND L6
L11 11 SEA ABB=ON PLU=ON L10 AND L2
SAV L10 GAR775/A

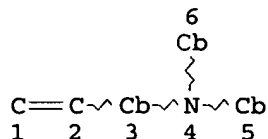
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L13 25 SEA ABB=ON PLU=ON L12 AND OPTIC?/SC,SX
L14 1 SEA ABB=ON PLU=ON L13 AND L1
L15 36 SEA ABB=ON PLU=ON L12 AND (?LUMINES? OR LUMIN? OR
LIGHT? OR ?EMIT? OR EL OR OEL OR OLED OR LED OR E(W)L
OR O(W)E(W)L)
L16 15 SEA ABB=ON PLU=ON L15 NOT L13
L17 21 SEA ABB=ON PLU=ON L15 AND OPTIC?/SC,SX
L18 24 SEA ABB=ON PLU=ON L12 AND (?LUMINES? OR LUMIN? OR
LIGHT(2A) (EMIT? OR EMISSION) OR ?EMIT? OR EL OR OEL OR

L19 OLEO OR LED OR E(W)L OR O(W)E(W)L)
 28 SEA ABB=ON PLU=ON L18 OR L13

=> d que l12

L3 STR



NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

GGCAT IS MCY UNS AT 3

GGCAT IS MCY UNS AT 5

GGCAT IS MCY UNS AT 6

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

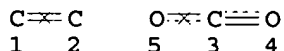
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NUMBER OF NODES IS 6

STEREO ATTRIBUTES: NONE

L6 SCR 2043

L8 STR



NODE ATTRIBUTES:

NSPEC IS RC AT 1

NSPEC IS RC AT 2

NSPEC IS RC AT 3

NSPEC IS RC AT 5

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 5

STEREO ATTRIBUTES: NONE

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L12 119 SEA FILE=HCAPLUS ABB=ON PLU=ON L10

=> fil hcap

FILE 'HCAPLUS' ENTERED AT 16:34:52 ON 28 JUL 2005

=> d l19 1-28 ibib abs hitstr hitind

L19 ANSWER 1 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:572164 HCAPLUS

TITLE: Stock solution for production of
 nonlinear-optical materials, nonlinear-optical
 material, and nonlinear-optical device

INVENTOR(S): Yamaguchi, Yasuhiro; Uesaka, Tomozumi; Takada, Hokuto; Nishikata, Yasunari
 PATENT ASSIGNEE(S): Fuji Xerox Co., Ltd., Japan
 SOURCE: U.S. Pat. Appl. Publ., 27 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005139813	A1	20050630	US 2004-866689	2004 0615
JP 2005189445	A2	20050714	JP 2003-429569	2003 1225
PRIORITY APPLN. INFO.:			JP 2003-429569	A 2003 1225

AB Stock solns. for producing nonlinear optical materials using a wet coating method are described which comprise either a push-pull π -conjugated nonlinear optically active organic compound comprising ≥ 1 cross-linkable functional group described by the general formula Z1(Z2)N-Z3-Lm-A or a matrix-forming compound having ≥ 1 cross-linkable functional group and a nonlinear-optically active organic compound are described by the general formula Z4(Z5)N-Z6-Dn-E (Z1-6 = independently selected (un)substituted aromatic groups; D, L = (un)substituted π -conjugated groups; A = an (un)substituted electron-withdrawing group; m = 0 or 1; Z1-3, L, and A each may be linked with any other group to form a ring structure; and ≥ 1 of Z1-3, L, and A has ≥ 1 cross-linkable functional groups; E = an (un)substituted electron-withdrawing group; n = 0 or 1; and Z4-6, D, and E each may be linked with any other group to form a ring structure and may have ≥ 1 cross-linkable functional groups). Nonlinear-optical materials and nonlinear-optical devices prepared by using the stock solns. are also described.

IT 856256-46-7P
 (stock solns. for producing nonlinear optical materials using wet coating techniques and nonlinear optical materials and devices produced using them)

RN 856256-46-7 HCAPLUS

CN Carbamic acid, [3-[methylbis(1-methylethoxy)silyl]propyl]-, [4-[[4-[(1E)-2-[(3E)-3-[(2E)-3-[4-cyano-5-(dicyanomethylene)-2,5-dihydro-2,2-dimethyl-3-furanyl]-2-propenylidene]-5,5-dimethyl-1-cyclohexen-1-yl]ethenyl]phenyl]phenylamino]phenyl]methyl ester, polymer with 3,10-dimethoxy-3,10-dimethyl-2,11-dioxa-3,10-disiladodecane (9CI) (CA INDEX NAME)

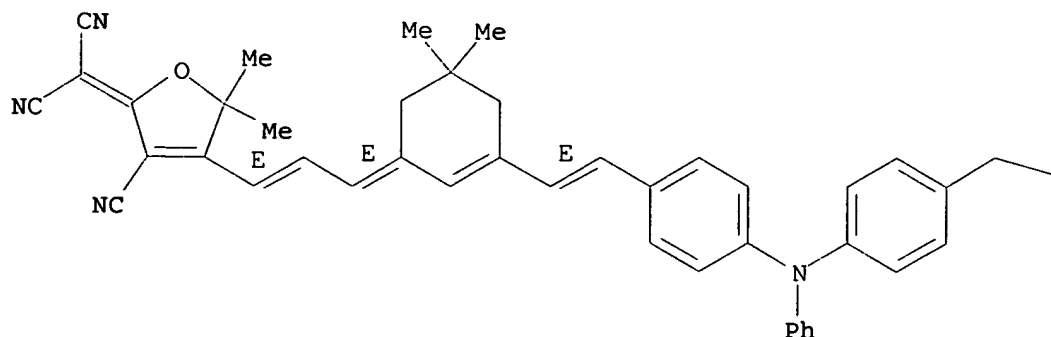
CM 1

CRN 856256-43-4

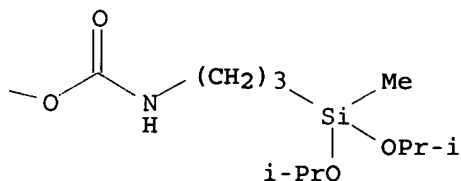
CMF C53 H61 N5 O5 Si

Double bond geometry as shown.

PAGE 1-A



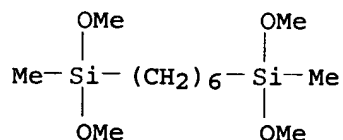
PAGE 1-B



CM 2

CRN 191917-78-9

CMF C12 H30 O4 Si2



IC ICM F21V009-00

INCL 252582000

CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 38

IT 856256-44-5P 856256-45-6P **856256-46-7P**

(stock solns. for producing nonlinear optical materials using wet coating techniques and nonlinear optical materials and devices produced using them)

L19 ANSWER 2 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:51035 HCAPLUS

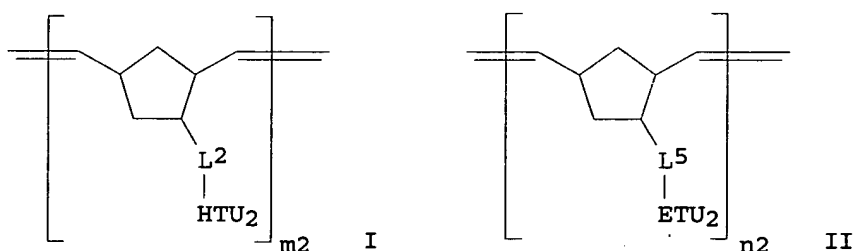
DOCUMENT NUMBER: 142:165272

TITLE: Block copolymers for organic electroluminescent (EL) device and its display, illumination, and

light source
 INVENTOR(S): Kawakami, Akira; Kita, Hiroshi; Ogino, Kenji
 PATENT ASSIGNEE(S): Konica Minolta Holdings, Inc., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 56 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005015508	A2	20050120	JP 2003-177859	2003 0623
PRIORITY APPLN. INFO.:				JP 2003-177859
				2003 0623

GI



AB The block copolymers comprise (A) block components of repeating units having hole-transporting units (HTU), (B) block components of repeating units having electron-transporting units (ETU), and (C) repeating units having phosphorescent units. Preferably, the block A is represented by the general formula [CHR₁CR₂(L₁HTU₁)]m₁, I, or [O(CR₃R₄)l₁CR₅(L₃HTU₃)]m₃ (HTU₁-HTU₃ = hole-transporting moiety; R₁-R₅ = H, substituent; L₁-L₃ = linking group, bond; m ≥ 3 integer; l₁ = 1, 2, 3) and the block B is represented by the general formula [CHR₆CR₇(L₄ETU₁)]n₁, II, or [O(CR₈R₉)l₂CR₁₀(L₆ETU₃)]n₃ (ETU₁-ETU₃ = electron-transporting moiety; R₆-R₁₀ = H, substituent; L₄-L₆ = linking group, bond; n₁-n₃ ≥ 3 integer; l₂ = 1, 2, 3). Preferably, the HTU comprise triphenylamine units and the ETU have F or F-containing substituents. Preferably, the surface free energy of the monomer forming HTU-containing repeating units is larger than that of the monomers of the ETU-containing repeating units and these monomers are incompatible to each other. Preferably, the block copolymers are prepared by atom.-transfer radical polymerization. Preferably, ≥ 1 of the block A contains hydrolyzable silyl groups, more preferably, trialkoxysilyl groups, and also contains dialkylamino groups. The organic EL device contains the A-B-C block copolymers in ≥ 1 of the organic layers provided between a cathode and an anode. In another alternative, the organic EL device contains A-B block copolymers and phosphorescent compds. The organic EL device has high emission efficiency, long service life,

and high productivity.

IT 830318-21-3P 830318-26-8P

(block copolymers for organic EL device for display, illumination, and light source)

RN 830318-21-3 HCAPLUS

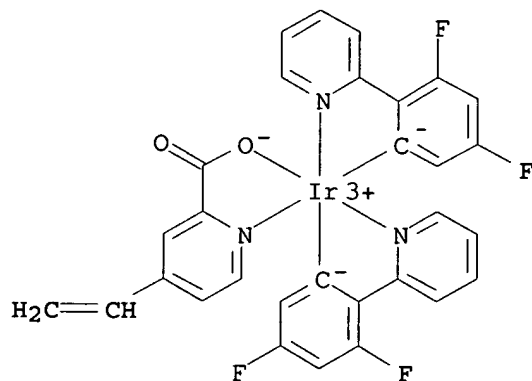
CN Iridium, bis[3,5-difluoro-2-(2-pyridinyl-κN)phenyl-κC] [4-ethenyl-2-pyridinecarboxylato-κN1,κO2]-, polymer with 3-[3,5-bis(trifluoromethyl)phenyl]-4-(4-ethenylphenyl)-5-(1-naphthalenyl)-4H-1,2,4-triazole, [5-(3-butenyl)-2-(2-pyridinyl-κN)phenyl-κC]bis[2-(2-pyridinyl-κN)phenyl-κC]iridium, N-(4-ethenylphenyl)-N,N'-bis(3-methylphenyl)-N'-[4-(trimethoxysilyl)phenyl][1,1'-biphenyl]-4,4'-diamine, 9-(4-ethenylphenyl)-9H-carbazole and (2-propenoato-κO,κO')bis[2-(2-pyridinyl-κN)benzo[b]thien-3-yl-κC]iridium, block (9CI) (CA INDEX NAME)

CM 1

CRN 830318-19-9

CMF C30 H18 F4 Ir N3 O2

CCI CCS

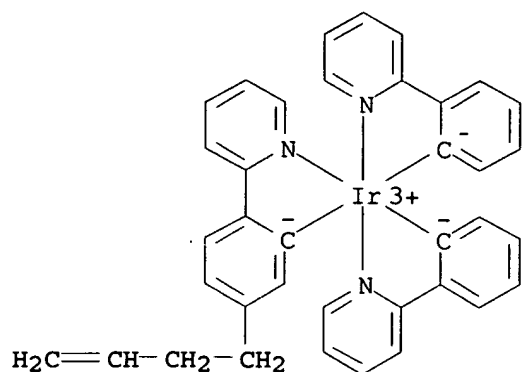


CM 2

CRN 830318-15-5

CMF C37 H30 Ir N3

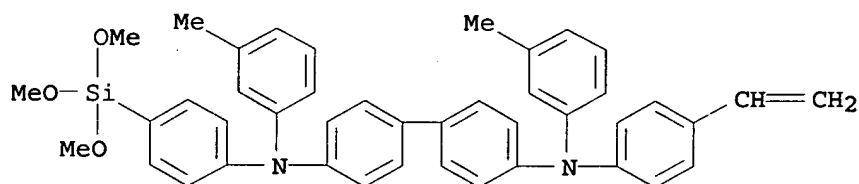
CCI CCS



CM 3

CRN 828940-12-1

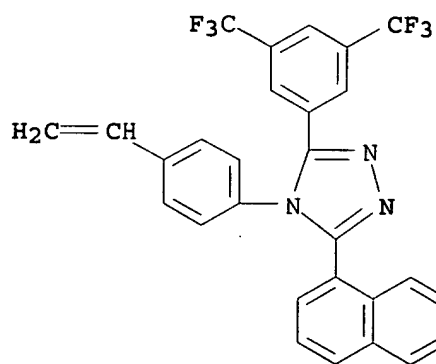
CMF C43 H42 N2 O3 Si



CM 4

CRN 828940-05-2

CMF C28 H17 F6 N3



CM 5

CRN 805236-96-8

CMF C29 H19 Ir N2 O2 S2

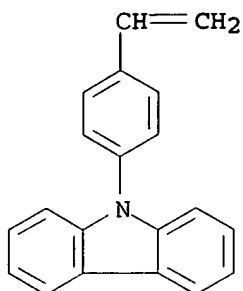
CCI CCS

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 6

CRN 52913-19-6

CMF C20 H15 N



RN 830318-26-8 HCAPLUS

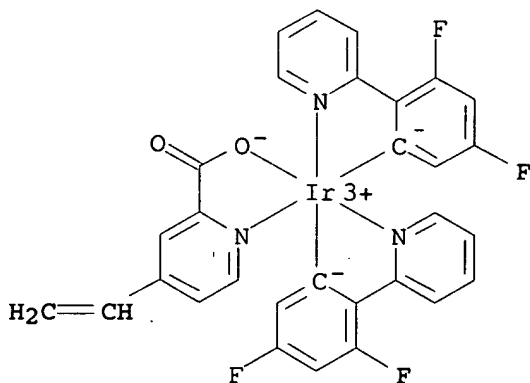
CN Iridium, bis[3,5-difluoro-2-(2-pyridinyl-κN)phenyl-κC][4-ethenyl-2-pyridinecarboxylato-κN1,κO2]-, polymer with 3-[3,5-bis(trifluoromethyl)phenyl]-4-(4-ethenylphenyl)-5-(1-naphthalenyl)-4H-1,2,4-triazole, N-(4-ethenylphenyl)-N,N'-bis(3-methylphenyl)-N'-[4-(trimethoxysilyl)phenyl][1,1'-biphenyl]-4,4'-diamine and 9-(4-ethenylphenyl)-9H-carbazole, block (9CI) (CA INDEX NAME)

CM 1

CRN 830318-19-9

CMF C30 H18 F4 Ir N3 O2

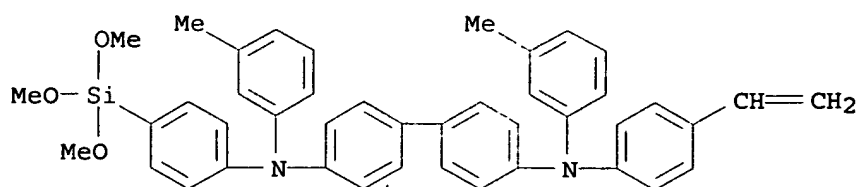
CCI CCS



CM 2

CRN 828940-12-1

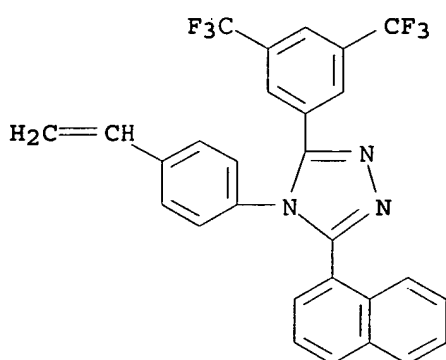
CMF C43 H42 N2 O3 Si



CM 3

CRN 828940-05-2

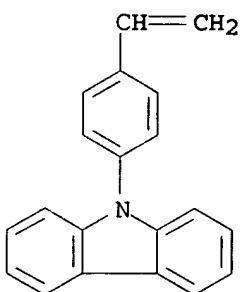
CMF C28 H17 F6 N3



CM 4

CRN 52913-19-6

CMF C20 H15 N



IC ICM C08F297-00

ICS C08G065-02; C09K011-06; H05B033-14; H05B033-22

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 38, 74

ST hole transporting unit block copolymer **electroluminescent** device; electron transporting unit block copolymer **electroluminescent** device; phosphorescent unit block copolymer **electroluminescent** device; light source org **electroluminescent** device; illumination org

electroluminescent device; org electroluminescent display block copolymer

IT Light sources
(block copolymers for organic EL device for display, illumination, and light source)

IT Electroluminescent devices
(displays; block copolymers for organic EL device for display, illumination, and light source)

IT Luminescent screens
(electroluminescent; block copolymers for organic EL device for display, illumination, and light source)

IT Light
(fluorescent; block copolymers for organic EL device for display, illumination, and light source)

IT Electroluminescent devices
(organic; block copolymers for organic EL device for display, illumination, and light source)

IT 828940-06-3P 830318-16-6P 830318-18-8P 830318-20-2P
830318-21-3P 830318-22-4P 830318-25-7P
830318-26-8P 830318-27-9P 830318-28-0P 830318-29-1P
(block copolymers for organic EL device for display, illumination, and light source)

IT 94928-86-6 344796-22-1 344796-24-3 376367-93-0
(phosphor; block copolymers for organic EL device for display, illumination, and light source)

L19 ANSWER 3 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:36450 HCAPLUS

DOCUMENT NUMBER: 142:143766

TITLE: Diarylamino group-containing copolymer, organic electroluminescent device, and method of producing hole transport layer for organic electroluminescent device

INVENTOR(S): Kato, Shinji

PATENT ASSIGNEE(S): Kawamura Institute of Chemical Research, Japan

SOURCE: U.S. Pat. Appl. Publ., 29 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005008893	A1	20050113	US 2003-615775	2003 0710

PRIORITY APPLN. INFO.:

US 2003-615775

Application 2003 0710

AB Organic electroluminescent devices which comprise an anode, a hole transport layer, an emitter layer and a cathode provided on a transparent support ADIW the hole transport layer comprises a layer made of a copolymer with repeating units represented by the formula -CH₂-CH(A₂)- (A₂ represents a group selected from an N,N-diaryl-substituted amino group, a group having an N,N-diaryl-substituted amino moiety, a trialkylamino

group, a pyrazoline-containing group, a stilbene-containing group, a hydrazone-containing group, an oxadiazole-containing group, a phthalocyanine-containing group, a naphthalocyanine-containing group, a porphyrin-containing group and a C60-containing group) and repeating units of a polymerizable unsatd. monomer unit having ≥ 1 functional group. Specific diarylamino group-containing copolymers are claimed. Methods of producing hole-transporting layers for organic **electroluminescent** devices are described which entail contacting anodes on substrates with solns. of coupling agents having groups forming covalent bonds with functional groups of the copolymer, contacting the resulting coupling agent layers with solns. containing the copolymers, and optionally forming ≥ 1 alternative laminates of the copolymer layers and layers containing compds. having ≥ 2 groups forming covalent bonds with the functional groups of the copolymer.

IT 522632-81-1P 522632-82-2P 709044-63-3P
709044-64-4P 723339-95-5P 723339-96-6P
741254-67-1P 741254-68-2P 824430-27-5P
824430-28-6P 824430-29-7P

(diarylamino group-containing copolymers and organic **electroluminescent** devices using them and methods of producing hole transport layers for organic **electroluminescent** devices)

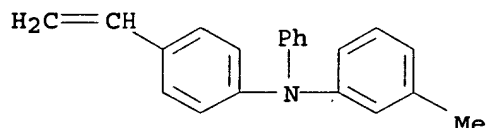
RN 522632-81-1 HCAPLUS

CN 2-Butenedioic acid (2Z)-, monomethyl ester, polymer with N-(4-ethenylphenyl)-3-methyl-N-phenylbenzenamine (9CI) (CA INDEX NAME)

CM 1

CRN 220716-63-2

CMF C21 H19 N

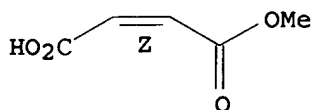


CM 2

CRN 3052-50-4

CMF C5 H6 O4

Double bond geometry as shown.



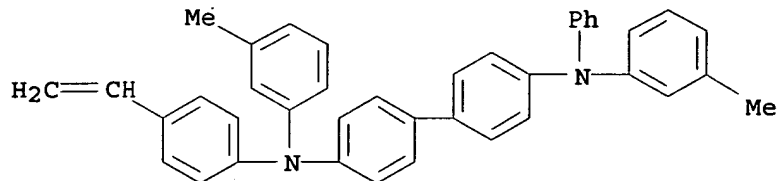
RN 522632-82-2 HCAPLUS

CN 2-Butenedioic acid (2Z)-, monomethyl ester, polymer with N-(4-ethenylphenyl)-N,N'-bis(3-methylphenyl)-N'-phenyl[1,1'-biphenyl]-4,4'-diamine (9CI) (CA INDEX NAME)

CM 1

CRN 227176-02-5

CMF C40 H34 N2

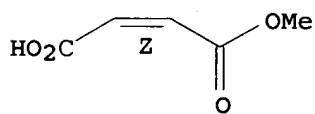


CM 2

CRN 3052-50-4

CMF C5 H6 O4

Double bond geometry as shown.



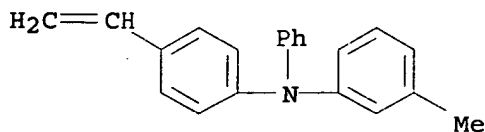
RN 709044-63-3 HCAPLUS

CN Butanedioic acid, methylene-, 4-methyl ester, polymer with
N-(4-ethenylphenyl)-3-methyl-N-phenylbenzenamine (9CI) (CA INDEX
NAME)

CM 1

CRN 220716-63-2

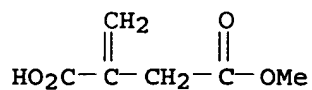
CMF C21 H19 N



CM 2

CRN 7338-27-4

CMF C6 H8 O4



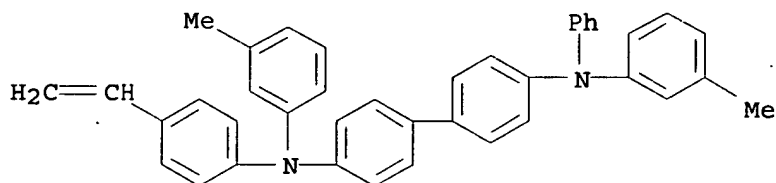
RN 709044-64-4 HCAPLUS

CN Butanedioic acid, methylene-, 4-methyl ester, polymer with
N-(4-ethenylphenyl)-N,N'-bis(3-methylphenyl)-N'-phenyl[1,1'-
biphenyl]-4,4'-diamine (9CI) (CA INDEX NAME)

CM 1

CRN 227176-02-5

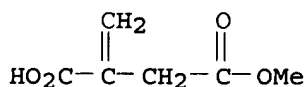
CMF C40 H34 N2



CM 2

CRN 7338-27-4

CMF C6 H8 O4



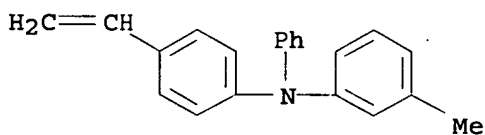
RN 723339-95-5 HCAPLUS

CN 2,5-Furandione, polymer with N-(4-ethenylphenyl)-3-methyl-N-
phenylbenzenamine (9CI) (CA INDEX NAME)

CM 1

CRN 220716-63-2

CMF C21 H19 N



CM 2

CRN 108-31-6

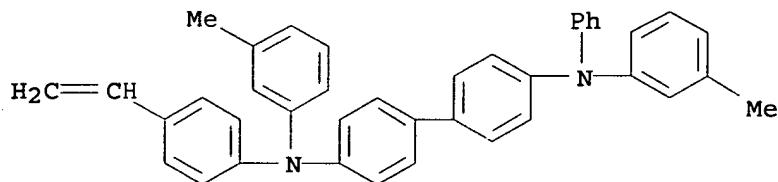
CMF C4 H2 O3



RN 723339-96-6 HCAPLUS
 CN 2,5-Furandione, polymer with N-(4-ethenylphenyl)-N,N'-bis(3-methylphenyl)-N'-phenyl[1,1'-biphenyl]-4,4'-diamine (9CI) (CA INDEX NAME)

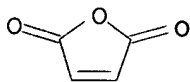
CM 1

CRN 227176-02-5
 CMF C40 H34 N2



CM 2

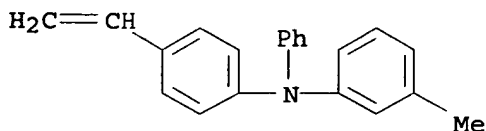
CRN 108-31-6
 CMF C4 H2 O3



RN 741254-67-1 HCAPLUS
 CN 2,5-Furandione, dihydro-3-methylene-, polymer with N-(4-ethenylphenyl)-3-methyl-N-phenylbenzenamine (9CI) (CA INDEX NAME)

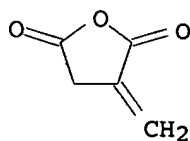
CM 1

CRN 220716-63-2
 CMF C21 H19 N



CM 2

CRN 2170-03-8
 CMF C5 H4 O3



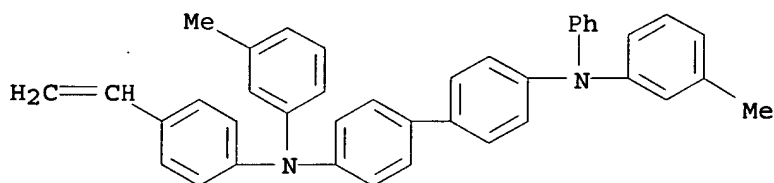
RN 741254-68-2 HCAPLUS

CN 2,5-Furandione, dihydro-3-methylene-, polymer with
N-(4-ethenylphenyl)-N,N'-bis(3-methylphenyl)-N'-phenyl[1,1'-
biphenyl]-4,4'-diamine (9CI) (CA INDEX NAME)

CM 1

CRN 227176-02-5

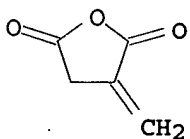
CMF C40 H34 N2



CM 2

CRN 2170-03-8

CMF C5 H4 O3



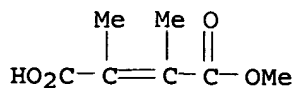
RN 824430-27-5 HCAPLUS

CN 2-Butenedioic acid, 2,3-dimethyl-, monomethyl ester, polymer with
N-(4-ethenylphenyl)-N,N'-bis(3-methylphenyl)-N'-phenyl[1,1'-
biphenyl]-4,4'-diamine (9CI) (CA INDEX NAME)

CM 1

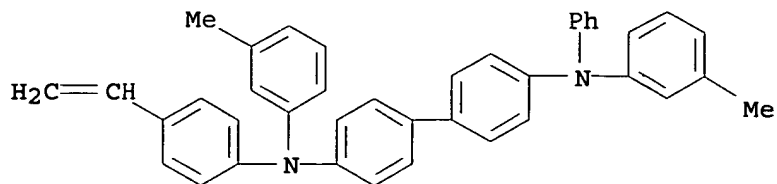
CRN 824430-26-4

CMF C7 H10 O4



CM 2

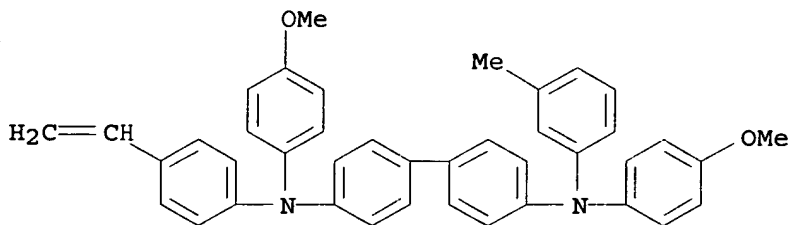
CRN 227176-02-5
CMF C40 H34 N2



RN 824430-28-6 HCAPLUS
CN 2-Butenedioic acid, monomethyl ester, polymer with
N-(4-ethenylphenyl)-N,N'-bis(4-methoxyphenyl)-N'-(3-
methylphenyl)[1,1'-biphenyl]-4,4'-diamine (9CI) (CA INDEX NAME)

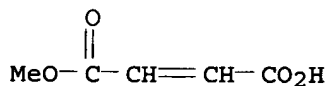
CM 1

CRN 220716-60-9
CMF C41 H36 N2 O2



CM 2

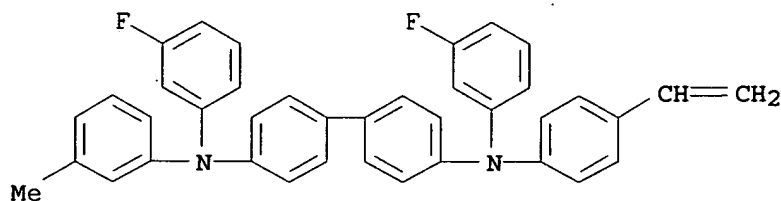
CRN 44836-34-2
CMF C5 H6 O4



RN 824430-29-7 HCAPLUS
CN 2-Butenedioic acid, monomethyl ester, polymer with
N-(4-ethenylphenyl)-N,N'-bis(3-fluorophenyl)-N'-(3-
methylphenyl)[1,1'-biphenyl]-4,4'-diamine (9CI) (CA INDEX NAME)

CM 1

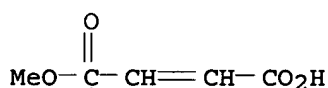
CRN 220716-62-1
CMF C39 H30 F2 N2



CM 2

CRN 44836-34-2

CMF C5 H6 O4



- IC ICM H05B033-12
ICS H05B033-10; C08F212-32; C08F220-00
- INCL 428690000; 428917000; 313504000; 313506000; 526310000; 526271000;
427066000
- CC 73-11 (Optical, Electron, and Mass Spectroscopy and
Other Related Properties)
Section cross-reference(s): 38, 76
- ST diarylamino copolymer org **electroluminescent** device hole
transport layer; org **electroluminescent** device hole
transport layer prodn
- IT Coupling agents
Semiconductor device fabrication
(diarylamino group-containing copolymers and organic
electroluminescent devices using them and methods of
producing hole transport layers for organic
electroluminescent devices)
- IT **Electroluminescent** devices
(organic; diarylamino group-containing copolymers and organic
electroluminescent devices using them and methods of
producing hole transport layers for organic
electroluminescent devices)
- IT 13822-56-5, 3-Aminopropyltrimethoxysilane
(coupling agent; diarylamino group-containing copolymers and organic
electroluminescent devices using them and methods of
producing hole transport layers for organic
electroluminescent devices)
- IT 50926-11-9, Ito
(diarylamino group-containing copolymers and organic
electroluminescent devices using them and methods of
producing hole transport layers for organic
electroluminescent devices)
- IT 522632-81-1P 522632-82-2P 709044-63-3P
709044-64-4P 723339-95-5P 723339-96-6P
741254-67-1P 741254-68-2P 824430-27-5P
824430-28-6P 824430-29-7P
(diarylamino group-containing copolymers and organic
electroluminescent devices using them and methods of
producing hole transport layers for organic

electroluminescent devices)
 IT 92-86-4, 4,4'-Dibromobiphenyl 104-94-9, p-Methoxyaniline
 106-37-6, 1,4-Dibromobenzene 108-31-6, Maleic anhydride,
 reactions 108-44-1, 3-Methylaniline, reactions 372-19-0,
 m-Fluoroaniline 591-17-3, 3-Bromotoluene 1205-64-7
 2170-03-8, Itaconic anhydride 3052-50-4, Maleic acid monomethyl
 ester 7338-27-4 7486-35-3, Tributyl(vinyl)tin 824430-26-4
 (diarylamino group-containing copolymers and organic
electroluminescent devices using them and methods of
 producing hole transport layers for organic
electroluminescent devices)
 IT 204327-05-9P 207345-05-9P 220716-53-0P 220716-54-1P
 220716-56-3P 220716-57-4P 220716-58-5P 220716-60-9P
 220716-62-1P 220716-63-2P 227176-02-5P
 (diarylamino group-containing copolymers and organic
electroluminescent devices using them and methods of
 producing hole transport layers for organic
electroluminescent devices)

L19 ANSWER 4 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:928797 HCAPLUS

DOCUMENT NUMBER: 141:403235

TITLE: Diarylamino-containing copolymers, organic
electroluminescent devices, and
 manufacture of hole-transporting layers

INVENTOR(S): Kato, Shinji

PATENT ASSIGNEE(S): Kawamura Institute of Chemical Research, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 51 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

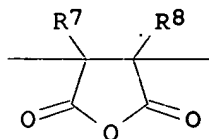
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

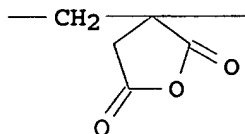
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2004307740	A2	20041104	JP 2003-106372	2003 0410
PRIORITY APPLN. INFO.:			JP 2003-106372	2003 0410

GI



I



II

AB The copolymers with d.p. 3-500 are H- or radical polymerization initiator
 residue-terminated (CH2CHAl)mJ1n [Al = N,N-diaryl-substituted
 aminophenyl, (un)substituted 9-carbazolyl; J1 = CR1R4CR2R3,

CH₂C(CH₂R₅)R₆, I, II; R₁-R₆ = H, C₁-4 alkyl, CO₂H, C₁-22 alkyloxycarbonyl; R₇, R₈ = H, C₁-4 alkyl; ≥1 of R₁-R₄ and ≥1 of R₅ and R₆ = CO₂H; m, n >0]. The devices have hole-transporting layers of (CH₂CH(A₂))_pJ₂q (I; A₂ = N,N-diaryl-substituted amino, trialkylamino, pyrazoline-, stilbene-, hydrazone-, oxadiazole-, phthalocyanine-, naphthalocyanine- porphyrin-, or C₆₀-containing group; J₂ = polymerizable unsatd. monomer unit having ≥1 functional group; p, q >0). The hole-transporting layers are manufactured by (1) contacting anodes on substrates with solns. of coupling agents having groups forming covalent bonds with functional groups of I, (2) contacting the resulting coupling agent layers with I-containing solns., and optionally (3) forming ≥1 alternative laminates of I layers and layers containing compds. having ≥2 groups forming covalent bonds with the functional groups of I. The devices show good interlayer adhesion between hole-transporting layers and anodes and high luminance by low-voltage application.

IT 522632-81-1P 522632-82-2P 522632-83-3P
522632-85-5P 522632-87-7P 709044-63-3P
709044-64-4P 723339-95-5P 723339-96-6P
741254-67-1P 741254-68-2P 754982-05-3P
754982-06-4P

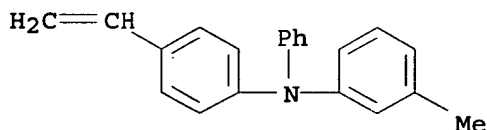
(diaryl-amino-containing polymers for hole-transporting layers of high-luminance electroluminescent devices)

RN 522632-81-1 HCAPLUS
CN 2-Butenedioic acid (2Z)-, monomethyl ester, polymer with
N-(4-ethenylphenyl)-3-methyl-N-phenylbenzenamine (9CI) (CA INDEX NAME)

CM 1

CRN 220716-63-2

CMF C21 H19 N

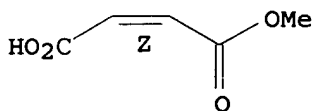


CM 2

CRN 3052-50-4

CMF C5 H6 O4

Double bond geometry as shown.



RN 522632-82-2 HCAPLUS

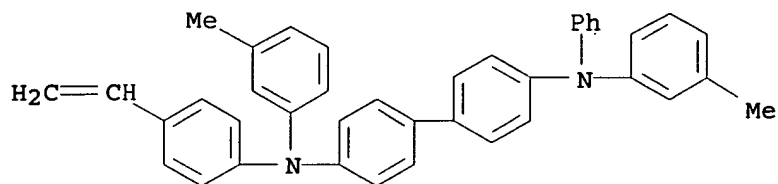
CN 2-Butenedioic acid (2Z)-, monomethyl ester, polymer with
N-(4-ethenylphenyl)-N,N'-bis(3-methylphenyl)-N'-phenyl[1,1'-

biphenyl]-4,4'-diamine (9CI) (CA INDEX NAME)

CM 1

CRN 227176-02-5

CMF C40 H34 N2

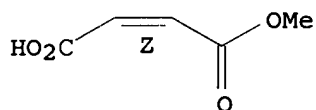


CM 2

CRN 3052-50-4

CMF C5 H6 O4

Double bond geometry as shown.



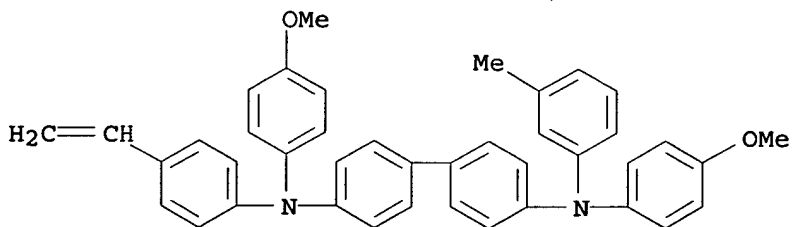
RN 522632-83-3 HCAPLUS

CN 2-Butenedioic acid (2Z)-, monomethyl ester, polymer with N-(4-ethenylphenyl)-N,N'-bis(4-methoxyphenyl)-N'-(3-methylphenyl)[1,1'-biphenyl]-4,4'-diamine (9CI) (CA INDEX NAME)

CM 1

CRN 220716-60-9

CMF C41 H36 N2 O2

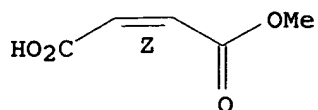


CM 2

CRN 3052-50-4

CMF C5 H6 O4

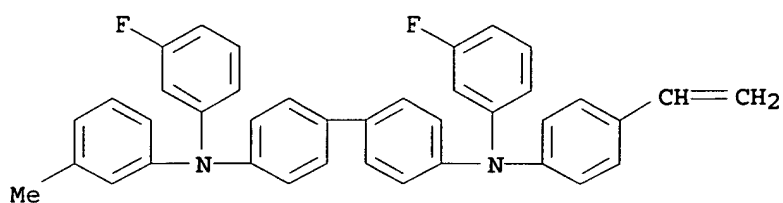
Double bond geometry as shown.



RN 522632-85-5 HCAPLUS
 CN 2-Butenedioic acid (2Z)-, monomethyl ester, polymer with
 N-(4-ethenylphenyl)-N,N'-bis(3-fluorophenyl)-N'-(3-
 methylphenyl)[1,1'-biphenyl]-4,4'-diamine (9CI) (CA INDEX NAME)

CM 1

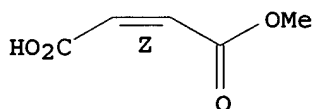
CRN 220716-62-1
 CMF C39 H30 F2 N2



CM 2

CRN 3052-50-4
 CMF C5 H6 O4

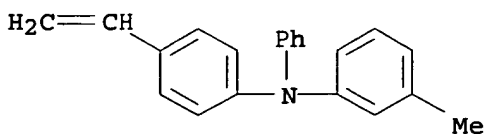
Double bond geometry as shown.



RN 522632-87-7 HCAPLUS
 CN 2-Butenedioic acid (2E)-, monoethyl ester, polymer with
 N-(4-ethenylphenyl)-3-methyl-N-phenylbenzenamine (9CI) (CA INDEX
 NAME)

CM 1

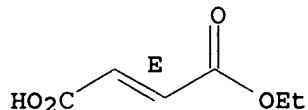
CRN 220716-63-2
 CMF C21 H19 N



CM 2

CRN 2459-05-4
CMF C6 H8 O4

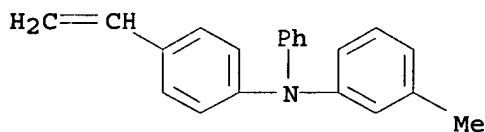
Double bond geometry as shown.



RN 709044-63-3 HCAPLUS
CN Butanedioic acid, methylene-, 4-methyl ester, polymer with
N-(4-ethenylphenyl)-3-methyl-N-phenylbenzenamine (9CI) (CA INDEX
NAME)

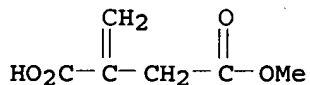
CM 1

CRN 220716-63-2
CMF C21 H19 N



CM 2

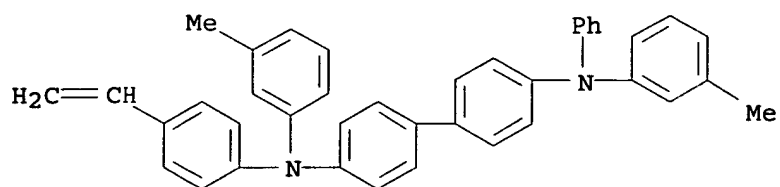
CRN 7338-27-4
CMF C6 H8 O4



RN 709044-64-4 HCAPLUS
CN Butanedioic acid, methylene-, 4-methyl ester, polymer with
N-(4-ethenylphenyl)-N,N'-bis(3-methylphenyl)-N'-phenyl[1,1'-
biphenyl]-4,4'-diamine (9CI) (CA INDEX NAME)

CM 1

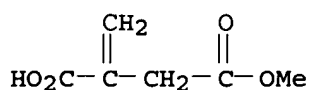
CRN 227176-02-5
CMF C40 H34 N2



CM 2

CRN 7338-27-4

CMF C6 H8 O4



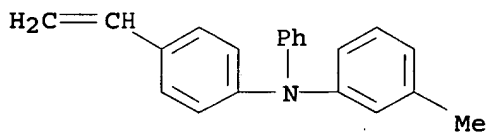
RN 723339-95-5 HCAPLUS

CN 2,5-Furandione, polymer with N-(4-ethenylphenyl)-3-methyl-N-phenylbenzenamine (9CI) (CA INDEX NAME)

CM 1

CRN 220716-63-2

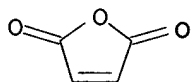
CMF C21 H19 N



CM 2

CRN 108-31-6

CMF C4 H2 O3



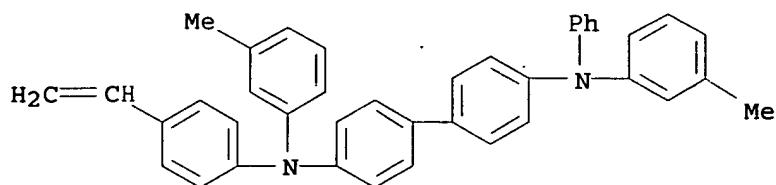
RN 723339-96-6 HCAPLUS

CN 2,5-Furandione, polymer with N-(4-ethenylphenyl)-N,N'-bis(3-methylphenyl)-N'-phenyl[1,1'-biphenyl]-4,4'-diamine (9CI) (CA INDEX NAME)

CM 1

CRN 227176-02-5

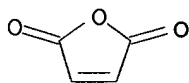
CMF C40 H34 N2



CM 2

CRN 108-31-6

CMF C4 H2 O3



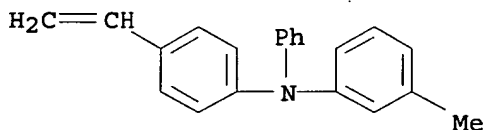
RN 741254-67-1 HCAPLUS

CN 2,5-Furandione, dihydro-3-methylene-, polymer with
N-(4-ethenylphenyl)-3-methyl-N-phenylbenzenamine (9CI) (CA INDEX
NAME)

CM 1

CRN 220716-63-2

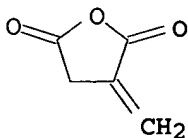
CMF C21 H19 N



CM 2

CRN 2170-03-8

CMF C5 H4 O3



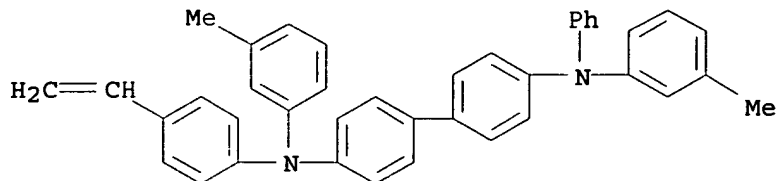
RN 741254-68-2 HCAPLUS

CN 2,5-Furandione, dihydro-3-methylene-, polymer with
N-(4-ethenylphenyl)-N,N'-bis(3-methylphenyl)-N'-phenyl[1,1'-
biphenyl]-4,4'-diamine (9CI) (CA INDEX NAME)

CM 1

CRN 227176-02-5

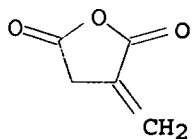
CMF C40 H34 N2



CM 2

CRN 2170-03-8

CMF C5 H4 O3



RN 754982-05-3 HCAPLUS

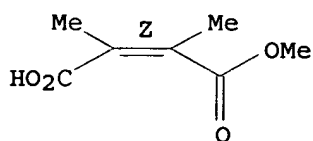
CN 2-Butenedioic acid, 2,3-dimethyl-, monomethyl ester, (2Z)-, polymer with N-(4-ethenylphenyl)-3-methyl-N-phenylbenzenamine (9CI) (CA INDEX NAME)

CM 1

CRN 754982-04-2

CMF C7 H10 O4

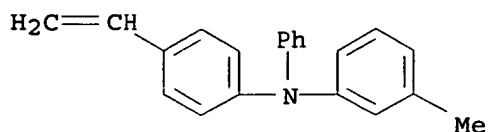
Double bond geometry as shown.



CM 2

CRN 220716-63-2

CMF C21 H19 N



RN 754982-06-4 HCAPLUS

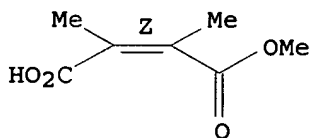
CN 2-Butenedioic acid, 2,3-dimethyl-, monomethyl ester, (2Z)-, polymer with N-(4-ethenylphenyl)-N,N'-bis(3-methylphenyl)-N'-phenyl[1,1'-biphenyl]-4,4'-diamine (9CI) (CA INDEX NAME)

CM 1

CRN 754982-04-2

CMF C7 H10 O4

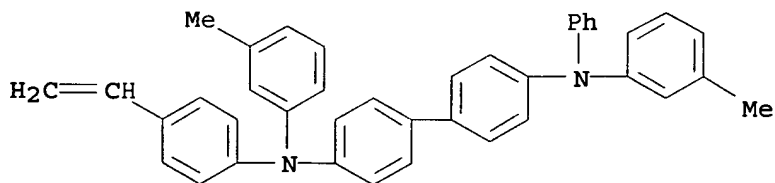
Double bond geometry as shown.



CM 2

CRN 227176-02-5

CMF C40 H34 N2



IC ICM C08F212-14

ICS C08F210-00; C08F222-04; C08F226-12; H05B033-10; H05B033-14; H05B033-22

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 38

ST **electroluminescent** device diarylamino polymer hole transporting; carbazolyl polymer hole transporting **electroluminescent** device

IT Coupling agents

Electroluminescent devices

Glass substrates

(diarylamino-containing polymers for hole-transporting layers of high-luminance **electroluminescent** devices)

IT 50926-11-9, ITO

(anodes; diarylamino-containing polymers for hole-transporting layers of high-luminance **electroluminescent**

- devices)
- IT 13822-56-5, 3-Aminopropyltrimethoxysilane
(coupling agents; diarylamino-containing polymers for
hole-transporting layers of high-luminance
electroluminescent devices)
- IT 107-15-3, Ethylenediamine, uses
(diarylamino-containing polymers for hole-transporting layers of
high-luminance electroluminescent devices)
- IT 57418-23-2P 63657-35-2P 141257-21-8P 522632-81-1P
522632-82-2P 522632-83-3P 522632-85-5P
522632-86-6P 522632-87-7P 709044-63-3P
709044-64-4P 723339-95-5P 723339-96-6P
741254-67-1P 741254-68-2P 754982-05-3P
754982-06-4P 754982-07-5P
(diarylamino-containing polymers for hole-transporting layers of
high-luminance electroluminescent devices)
- IT 204327-05-9P 207345-05-9P 220716-53-0P 220716-54-1P
220716-56-3P 220716-57-4P 220716-58-5P
(intermediates in monomer preparation; diarylamino-containing polymers
for hole-transporting layers of high-luminance
electroluminescent devices)
- IT 624-48-6P 220716-60-9P 220716-62-1P 220716-63-2P
227176-02-5P
(monomers; diarylamino-containing polymers for hole-transporting
layers of high-luminance electroluminescent
devices)
- IT 92-86-4, 4,4'-Dibromobiphenyl 104-94-9, p-Methoxyaniline
106-37-6, 1,4-Dibromobenzene 108-44-1, 3-Methylaniline,
reactions 372-19-0, m-Fluoroaniline 591-17-3, 3-Bromotoluene
766-39-2, 2,3-Dimethylmaleic anhydride 1205-64-7
(reactants in monomer preparation; diarylamino-containing polymers for
hole-transporting layers of high-luminance
electroluminescent devices)

L19 ANSWER 5 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:861396 HCAPLUS

DOCUMENT NUMBER: 142:57028

TITLE: Synthesis and Properties of New Chiral
Donor-Embedded Polybinaphthalenes for
Nonlinear Optical Applications

AUTHOR(S): Koeckelberghs, Guy; Vangheluwe, Marnix;
Picard, Isabel; De Groof, Leen; Verbiest,
Thierry; Persoons, Andre; Samyn, Celest

CORPORATE SOURCE: Laboratory of Macromolecular and Physical
Organic Chemistry, Katholieke Universiteit
Leuven, Louvain, B-3001, Belg.

SOURCE: Macromolecules (2004), 37(23), 8530-8537

CODEN: MAMOBX; ISSN: 0024-9297

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Eight new chiral, chromophore-functionalized donor-embedded
polybinaphthalenes were prepared and characterized for their
(nonlinear) optical properties. The polymers were prepared by
direct polymerization using a Stille coupling reaction between a chiral
bis(trimethyltin) binaphthalene derivative and diiodo-functionalized
chromophores. The use of diiodo-functionalized instead of
dibromo-functionalized chromophores resulted in a significant
increase of mol. weight, as demonstrated by end group anal., GPC, and
MALDI-TOF expts. The reaction conditions allowed the use of a

great variety of chromophores with different D π A structures. The typical treelike macromol. architecture of the polymers is reflected in the behavior of the glass transition temperature and, more clearly, in the nonlinear optical properties. The nonlinear optical response shows a continuous, linear increase in function of chromophore concentration, indicating that the dipolar interactions between the chromophores are eliminated. Moreover, chiral contributions to the nonlinear optical response were observed and mounted 14% of the highest achiral contribution.

IT 808758-92-1P 808758-93-2P

(synthesis and properties of new chiral donor-embedded polybinaphthalenes for nonlinear optical applications)

RN 808758-92-1 HCAPLUS

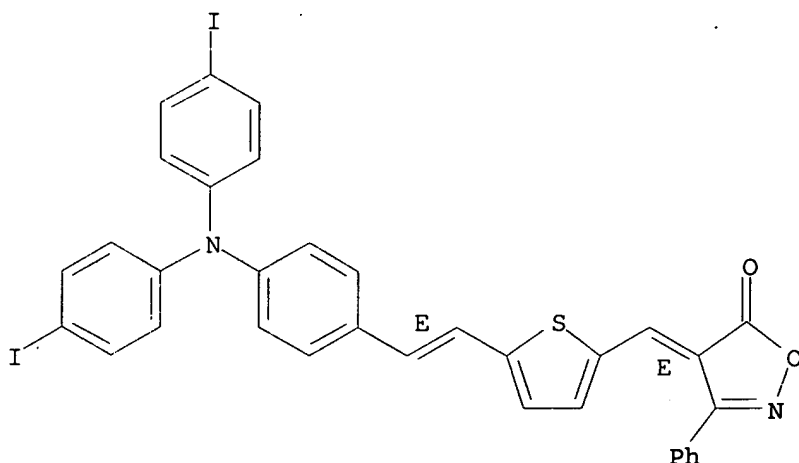
CN 5(4H)-Isoxazolone, 4-[[[5-[(1E)-2-[4-[bis(4-iodophenyl)amino]phenyl]ethenyl]-2-thienyl]methylene]-3-phenyl-, (4E)-, polymer with [(1S)-2,2'-bis(hexyloxy)[1,1'-binaphthalene]-6,6'-diyl]bis[trimethylstannane] (9CI) (CA INDEX NAME)

CM 1

CRN 808758-85-2

CMF C34 H22 I2 N2 O2 S

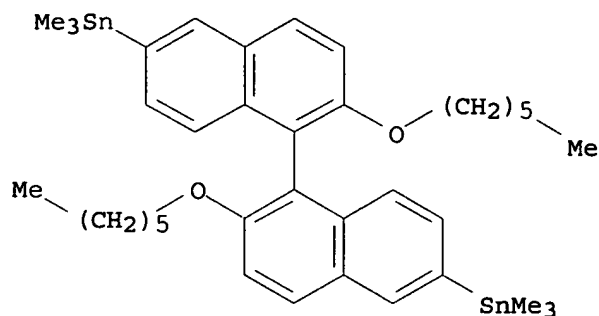
Double bond geometry as shown.



CM 2

CRN 591228-35-2

CMF C38 H54 O2 Sn2



RN 808758-93-2 HCAPLUS

CN Poly[[[4-[(1E)-2-[5-[(E)-(5-oxo-3-phenyl-4(5H)-isoxazolyliidene)methyl]-2-thienyl]ethenyl]phenyl]imino]-1,4-phenylene[(1S)-2,2'-bis(hexyloxy)[1,1'-binaphthalene]-6,6'-diyl]-1,4-phenylene] (9CI) (CA INDEX NAME)

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT
*

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT
*

CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 35, 36, 73

IT 590375-46-5P 808758-89-6P 808758-90-9P 808758-91-0P

808758-92-1P 808758-93-2P 808758-94-3P

808758-95-4P 808758-96-5P 808758-97-6P 808758-98-7P

(synthesis and properties of new chiral donor-embedded polybinaphthalenes for nonlinear optical applications)

REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 6 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:738950 HCAPLUS

DOCUMENT NUMBER: 141:268178

TITLE: Monoalkyl maleate polymers, their manufacture, method for manufacturing hole-transporting layers with uniform thickness from them, and organic electroluminescent devices using them

INVENTOR(S): Kato, Shinji

PATENT ASSIGNEE(S): Kawamura Institute of Chemical Research, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 32 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2004250522

A2

20040909

JP 2003-40978

2003

0219

PRIORITY APPLN. INFO.:

JP 2003-40978

2003

0219

AB The polymers with d.p. 3-500, depicted as $(\text{CH}_2\text{CHA}_2)_m[\text{CR}_1(\text{CO}_2\text{H})\text{C}(\text{CO}_2\text{R}_3)\text{R}_2]_n$ ($\text{A}_2 = \text{N}, \text{N}$ -diaryl-substituted amino group; $\text{R}_{1,2} = \text{H}$, C_{1-4} alkyl; $\text{R}_1 = \text{R}_2 \neq \text{H}$; $\text{R}_3 = \text{H}$, C_{1-22} alkyl; $m:n = 1:1-4:1$), are manufactured by radical polymerization of vinyl compds. CH_2CHA_2 ($\text{A}_2 = \text{same as above}$) and ethylenedicarboxylic acid derivs. $\text{R}_1(\text{HOOC})\text{C}:\text{C}(\text{COOR}_3)\text{R}_2$ ($\text{R}_{1-3} = \text{same as above}$). The method contains applying solns. of amino-containing coupling agents to anodes on substrates, forming layers of the polymers on the coupling agent layers, and optionally forming polyamine layers on them, thus giving the devices with good adhesion of the polymer layers to anodes and high brightness.

IT 754982-05-3P 754982-06-4P

(hole-transporting layer; electroluminescent devices having hole-transporting layers of monoalkyl maleate copolymers with good adhesion to anodes and high brightness)

RN 754982-05-3 HCAPLUS

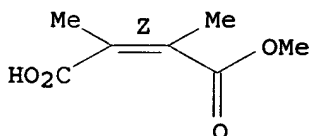
CN 2-Butenedioic acid, 2,3-dimethyl-, monomethyl ester, (2Z)-, polymer with N -(4-ethenylphenyl)-3-methyl- N -phenylbenzenamine (9CI) (CA INDEX NAME)

CM 1

CRN 754982-04-2

CMF C7 H10 O4

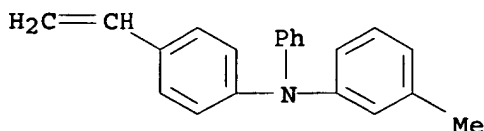
Double bond geometry as shown.



CM 2

CRN 220716-63-2

CMF C21 H19 N



RN 754982-06-4 HCAPLUS

CN 2-Butenedioic acid, 2,3-dimethyl-, monomethyl ester, (2Z)-, polymer with N -(4-ethenylphenyl)- N, N' -bis(3-methylphenyl)- N' -

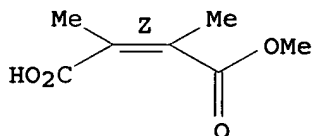
phenyl[1,1'-biphenyl]-4,4'-diamine (9CI) (CA INDEX NAME)

CM 1

CRN 754982-04-2

CMF C7 H10 O4

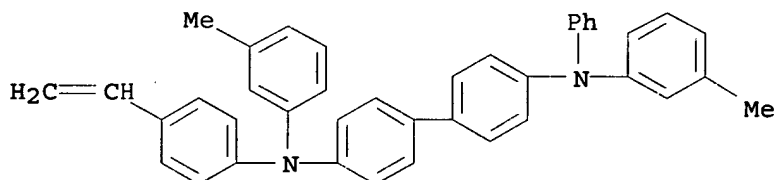
Double bond geometry as shown.



CM 2

CRN 227176-02-5

CMF C40 H34 N2



IC ICM C08F212-32

ICS C08F222-16; C08F226-12; H05B033-10; H05B033-14; H05B033-22

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 38

ST hole transporting monoalkyl maleate polymer **EL**;
electroluminescent device hole transporter adhesion anode;
EL device brightness polyamine coating heating

IT Coupling agents

(amino-containing; **electroluminescent** devices having hole-transporting layers of monoalkyl maleate copolymers with good adhesion to anodes and high brightness)

IT **Electroluminescent** devices

(**electroluminescent** devices having hole-transporting layers of monoalkyl maleate copolymers with good adhesion to anodes and high brightness)

IT Polymers, uses

(hole-transporting; **electroluminescent** devices having hole-transporting layers of monoalkyl maleate copolymers with good adhesion to anodes and high brightness)

IT 50926-11-9, ITO

(anode; **electroluminescent** devices having hole-transporting layers of monoalkyl maleate copolymers with good adhesion to anodes and high brightness)

IT 13822-56-5, 3-Aminopropyltrimethoxysilane

(coupling agent layer; **electroluminescent** devices having hole-transporting layers of monoalkyl maleate copolymers with good adhesion to anodes and high brightness)

IT 204327-05-9P 207345-05-9P 220716-57-4P
(for monomer preparation; **electroluminescent** devices
having hole-transporting layers of monoalkyl maleate copolymers
with good adhesion to anodes and high brightness)

IT 92-86-4, 4,4'-Dibromobiphenyl 106-37-6, 1,4-Dibromobenzene
108-44-1, 3-Methylaniline, reactions 766-39-2, Dimethylmaleic
anhydride 1205-64-7, Phenyl-m-tolylamine 7486-35-3,
Tributyl(vinyl)tin
(for monomer preparation; **electroluminescent** devices
having hole-transporting layers of monoalkyl maleate copolymers
with good adhesion to anodes and high brightness)

IT 754982-05-3P 754982-06-4P 754982-07-5P
(hole-transporting layer; **electroluminescent** devices
having hole-transporting layers of monoalkyl maleate copolymers
with good adhesion to anodes and high brightness)

IT 220716-63-2P 227176-02-5P 754982-04-2P
(monomer; **electroluminescent** devices having
hole-transporting layers of monoalkyl maleate copolymers with
good adhesion to anodes and high brightness)

IT 107-15-3, Ethylenediamine, uses
(polyamine layer; **electroluminescent** devices having
hole-transporting layers of monoalkyl maleate copolymers with
good adhesion to anodes and high brightness)

L19 ANSWER 7 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:720174 HCAPLUS

DOCUMENT NUMBER: 141:215405

TITLE: Itaconic anhydride copolymers, their
manufacture, method for manufacturing hole
transport layers with excellent brightness and
adhesion to anodes from them, and organic
electroluminescent devices using them

INVENTOR(S): Kato, Shinji

PATENT ASSIGNEE(S): Kawamura Institute of Chemical Research, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 34 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004244456	A2	20040902	JP 2003-33591	2003 0212

PRIORITY APPLN. INFO.: JP 2003-33591

2003
0212

AB The method contains (A) contacting solns. of amino-containing coupling
agents to anodes on substrates, (B) contacting solns. of the
polymers with d.p. 3-500, prepared by radical polymerization of CH₂:CHA₂
(A₂ = N,N-aryl-substituted amino group) and itaconic anhydride, to
the coupling agent layers, and (C, optional) contacting solns. of
comps. bearing ≥2 amino groups to the polymer layers, thus
giving the hole transport layers with uniform thickness and smooth
surfaces.

IT 741254-67-1P 741254-68-2P

(hole transport layer; manufacture of hole transport polymer layers with uniform thickness and good adhesion to anodes for organic EL devices)

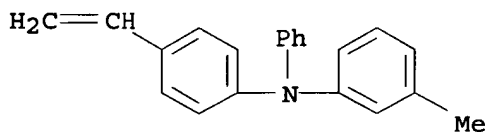
RN 741254-67-1 HCAPLUS

CN 2,5-Furandione, dihydro-3-methylene-, polymer with N-(4-ethenylphenyl)-3-methyl-N-phenylbenzenamine (9CI) (CA INDEX NAME)

CM 1

CRN 220716-63-2

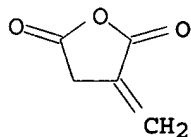
CMF C21 H19 N



CM 2

CRN 2170-03-8

CMF C5 H4 O3



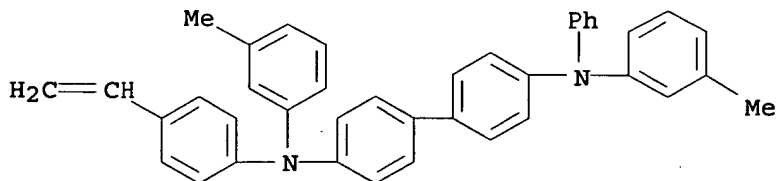
RN 741254-68-2 HCAPLUS

CN 2,5-Furandione, dihydro-3-methylene-, polymer with N-(4-ethenylphenyl)-N,N'-bis(3-methylphenyl)-N'-phenyl[1,1'-biphenyl]-4,4'-diamine (9CI) (CA INDEX NAME)

CM 1

CRN 227176-02-5

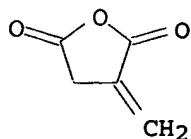
CMF C40 H34 N2



CM 2

CRN 2170-03-8

CMF C5 H4 O3



IT 741254-69-3P 741254-70-6P

(hole transport layer; manufacture of hole transport polymer layers with uniform thickness and good adhesion to anodes for organic EL devices)

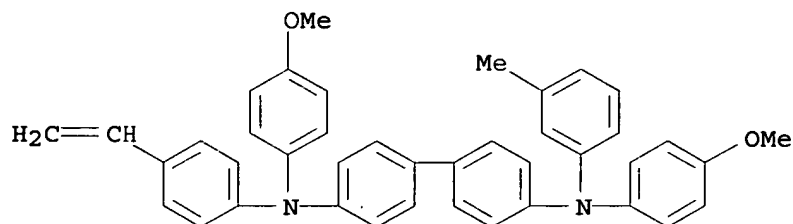
RN 741254-69-3 HCAPLUS

CN 2,5-Furandione, dihydro-3-methylene-, polymer with N-(4-ethenylphenyl)-N,N'-bis(4-methoxyphenyl)-N'-(3-methylphenyl)[1,1'-biphenyl]-4,4'-diamine (9CI) (CA INDEX NAME)

CM 1

CRN 220716-60-9

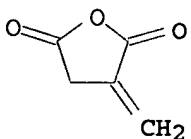
CMF C41 H36 N2 O2



CM 2

CRN 2170-03-8

CMF C5 H4 O3



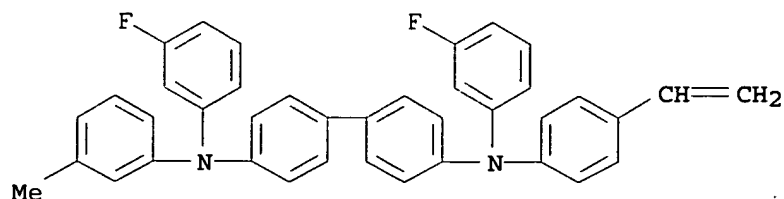
RN 741254-70-6 HCAPLUS

CN 2,5-Furandione, dihydro-3-methylene-, polymer with N-(4-ethenylphenyl)-N,N'-bis(3-fluorophenyl)-N'-(3-methylphenyl)[1,1'-biphenyl]-4,4'-diamine (9CI) (CA INDEX NAME)

CM 1

CRN 220716-62-1

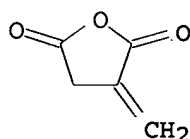
CMF C39 H30 F2 N2



CM 2

CRN 2170-03-8

CMF C5 H4 O3



- IC ICM C08F212-14
ICS C09K011-06; H05B033-10; H05B033-14; H05B033-22
- CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 38
- ST **electroluminescent** device hole transport polymer brightness; phenylaminophenyl polymer adhesion amino coupler anode; vinylcarbazole itaconic copolymer wet coating **EL**
- IT Coupling agents
(amino-containing; manufacture of hole transport polymer layers with uniform thickness and good adhesion to anodes for organic **EL** devices)
- IT Polymers, uses
(hole transport layer; manufacture of hole transport polymer layers with uniform thickness and good adhesion to anodes for organic **EL** devices)
- IT **Electroluminescent** devices
(manufacture of hole transport polymer layers with uniform thickness and good adhesion to anodes for organic **EL** devices)
- IT 107-15-3, Ethylenediamine, uses
(amino compound layer; manufacture of hole transport polymer layers with uniform thickness and good adhesion to anodes for organic **EL** devices)
- IT 50926-11-9, ITO
(anode; manufacture of hole transport polymer layers with uniform thickness and good adhesion to anodes for organic **EL** devices)
- IT 13822-56-5, 3-Aminopropyltrimethoxysilane
(coupling agent layer; manufacture of hole transport polymer layers with uniform thickness and good adhesion to anodes for organic **EL** devices)
- IT 204327-05-9P 207345-05-9P 220716-53-0P 220716-54-1P
220716-56-3P 220716-57-4P 220716-58-5P
(for monomer preparation; manufacture of hole transport polymer layers with uniform thickness and good adhesion to anodes for organic **EL** devices)

- IT 92-86-4, 4,4'-Dibromobiphenyl 104-94-9, p-Methoxyaniline
 106-37-6, 1,4-Dibromobenzene 108-44-1, 3-Methylaniline,
 reactions 372-19-0, m-Fluoroaniline 591-17-3, 3-Bromotoluene
 1205-64-7, Phenyl-m-tolylamine 7486-35-3, Tributyl(vinyl)tin
 (for monomer preparation; manufacture of hole transport polymer layers
 with uniform thickness and good adhesion to anodes for organic
 EL devices)
- IT 141257-21-8P 741254-67-1P 741254-68-2P
 (hole transport layer; manufacture of hole transport polymer layers
 with uniform thickness and good adhesion to anodes for organic
 EL devices)
- IT 741254-69-3P 741254-70-6P
 (hole transport layer; manufacture of hole transport polymer layers
 with uniform thickness and good adhesion to anodes for organic
 EL devices)
- IT 220716-60-9P 220716-62-1P 220716-63-2P 227176-02-5P
 (monomer; manufacture of hole transport polymer layers with uniform
 thickness and good adhesion to anodes for organic EL
 devices)

L19 ANSWER 8 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:568696 HCAPLUS

DOCUMENT NUMBER: 141:131026

TITLE: Maleic anhydride-based polymers, organic
 electroluminescent devices, and their
 manufacture

INVENTOR(S): Kato, Shinji

PATENT ASSIGNEE(S): Kawamura Institute of Chemical Research, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 35 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

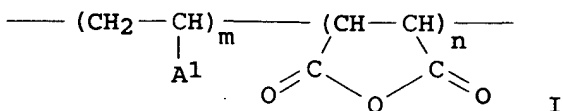
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004196938	A2	20040715	JP 2002-366543	2002 1218
PRIORITY APPLN. INFO.: JP 2002-366543				2002 1218

GI



- AB The polymers having radically polymerization initiator residue- or
 H-terminated repeating units I (A1 = N,N-aryl-substituted amino;
 m:n = 1:1-4:1) with d.p. 3-500 are manufactured by radical polymerization of
 vinyl compds. CH₂:CH A1 and maleic anhydride. In the devices
 having substrates coated with anodes, hole-transporting layers,

light-emitting layers, and cathodes, the hole-transporting layers showing good adhesion to the anodes are formed by (1) contacting the anodes with amino-containing coupling agent solns. and (2) contacting the resulting coupling agent layers with solns. containing the polymers. The hole-transporting layers may be formed by repeating processes involving (a) contacting the polymer layers with compds. having ≥ 2 amino groups and (b) forming the polymer layers to give alternative laminates of the amino compound layers and the polymer layers after the above processes. The devices give high luminance by low-voltage application.

IT 723339-95-5P 723339-96-6P

(manufacture of maleic anhydride polymers for high-luminance electroluminescent devices)

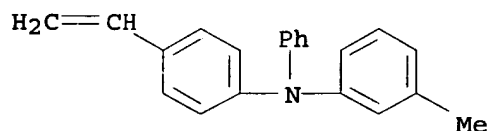
RN 723339-95-5 HCAPLUS

CN 2,5-Furandione, polymer with N-(4-ethenylphenyl)-3-methyl-N-phenylbenzenamine (9CI) (CA INDEX NAME)

CM 1

CRN 220716-63-2

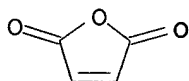
CMF C21 H19 N



CM 2

CRN 108-31-6

CMF C4 H2 O3



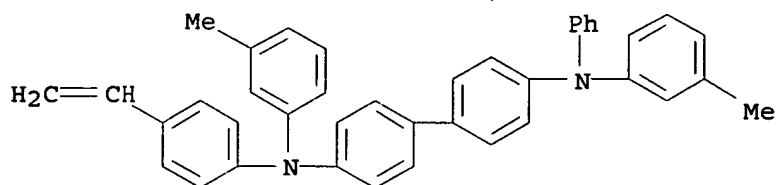
RN 723339-96-6 HCAPLUS

CN 2,5-Furandione, polymer with N-(4-ethenylphenyl)-N,N'-bis(3-methylphenyl)-N'-phenyl[1,1'-biphenyl]-4,4'-diamine (9CI) (CA INDEX NAME)

CM 1

CRN 227176-02-5

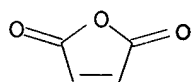
CMF C40 H34 N2



CM 2

CRN 108-31-6

CMF C4 H2 O3



IT 723339-97-7P 723340-01-0P

(manufacture of maleic anhydride polymers for high-luminance electroluminescent devices)

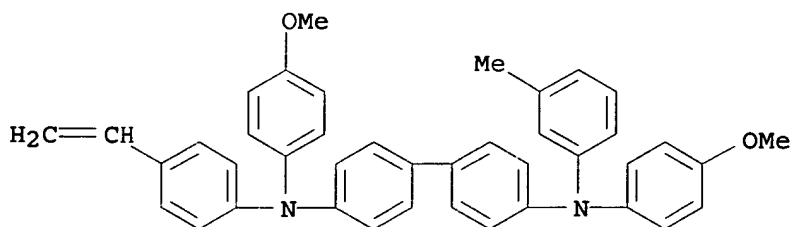
RN 723339-97-7 HCAPLUS

CN 2,5-Furandione, polymer with N-(4-ethenylphenyl)-N,N'-bis(4-methoxyphenyl)-N'-(3-methylphenyl)[1,1'-biphenyl]-4,4'-diamine (9CI) (CA INDEX NAME)

CM 1

CRN 220716-60-9

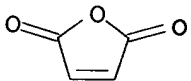
CMF C41 H36 N2 O2



CM 2

CRN 108-31-6

CMF C4 H2 O3



RN 723340-01-0 HCAPLUS

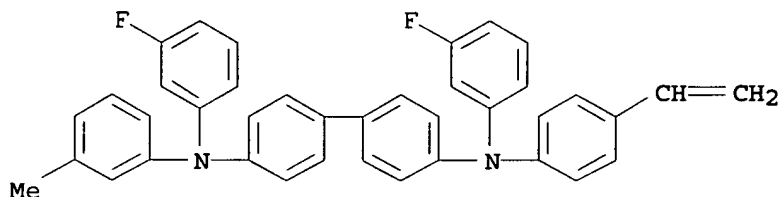
CN 2,5-Furandione, polymer with N-(4-ethenylphenyl)-N,N'-bis(3-

fluorophenyl)-N'-(3-methylphenyl)[1,1'-biphenyl]-4,4'-diamine
(9CI) (CA INDEX NAME)

CM 1

CRN 220716-62-1

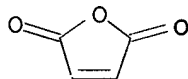
CMF C39 H30 F2 N2



CM 2

CRN 108-31-6

CMF C4 H2 O3



- IC ICM C08F212-14
ICS C07D307-60; C07D405-14; C08F226-12; C09K011-06; H05B033-10;
H05B033-14; H05B033-22; C08F222-08
- CC 73-11 (Optical, Electron, and Mass Spectroscopy and
Other Related Properties)
Section cross-reference(s): 38
- ST maleic anhydride polymer hole transporting layer;
phenylaminophenyl maleic anhydride polymer
electroluminescent device; carbazoyl maleic anhydride
polymer electroluminescent device; amino coupling agent
treatment electroluminescent device; anode adhesion hole
transporting electroluminescent device
- IT Coupling agents
(amino-containing; manufacture of maleic anhydride polymers for high-
luminance electroluminescent devices)
- IT Electroluminescent devices
(manufacture of maleic anhydride polymers for high-luminance
electroluminescent devices)
- IT 50926-11-9, ITO
(anodes; manufacture of maleic anhydride polymers for high-
luminance electroluminescent devices)
- IT 13822-56-5, 3-Aminopropyltrimethoxysilane
(coupling agents; manufacture of maleic anhydride polymers for high-
luminance electroluminescent devices)
- IT 204327-05-9P 207345-05-9P 220716-53-0P 220716-54-1P
220716-56-3P 220716-57-4P 220716-58-5P
(intermediates in monomer preparation; manufacture of maleic anhydride
polymers for high-luminance
electroluminescent devices)
- IT 63657-35-2P 723339-95-5P 723339-96-6P

(manufacture of maleic anhydride polymers for high-luminance electroluminescent devices)

IT 723339-97-7P 723340-01-0P
(manufacture of maleic anhydride polymers for high-luminance electroluminescent devices)

IT 107-15-3, Ethylenediamine, uses
(manufacture of maleic anhydride polymers for high-luminance electroluminescent devices)

IT 220716-60-9P 220716-62-1P 220716-63-2P 227176-02-5P
(monomers; manufacture of maleic anhydride polymers for high-luminance electroluminescent devices)

IT 92-86-4, 4,4'-Dibromobiphenyl 104-94-9, p-Methoxyaniline
106-37-6, 1,4-Dibromobenzene 108-44-1, 3-Methylaniline,
reactions 372-19-0, m-Fluoroaniline 591-17-3, 3-Bromotoluene
1205-64-7 7486-35-3, Tributyl(vinyl)tin
(reactants in monomer preparation; manufacture of maleic anhydride polymers for high-luminance electroluminescent devices)

L19 ANSWER 9 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:512434 HCAPLUS

DOCUMENT NUMBER: 141:79431

TITLE: Polymer involving N,N-aryl-substituted amino group for organic electroluminescent device and the device itself

INVENTOR(S): Kato, Shinji

PATENT ASSIGNEE(S): Kawamura Institute of Chemical Research, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 35 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 2004175869	A2	20040624	JP 2002-342124	2002 1126
PRIORITY APPLN. INFO.:				2002 1126
				2002 1126

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT
*

AB The polymer with d.p. 3-500 is that represented as
(CH₂CHA)_m[CH₂C(CO₂H)(CH₂CO₂R)]_n (A = N,N-diphenylaminophenyl group, 9-carbazolyl group I, II, III; Xs are H, halogen, alkyl, etc.; R = H, C1-22 alkyl; m:n is 1:1-4:1), whose terminals are radical polymerization initiator residue or H. The polymer is manufactured by radical polymerization of CH₂:CHA and CH₂C(CH₂CO₂R)CO₂H (A, R are the same as above). The electroluminescent device is that having an anode, a pos. hole-transporting layer made of the

polymer, a light-emitting layer, and a cathode formed on a substrate in this order. The electroluminescent device is manufactured by a process involving (a) contacting of an anode on a substrate with a solution containing amino-containing coupler and (b) contacting of the treated surface with a solution of the polymer. The device shows enhanced adhesion of the pos. hole-transporting layer with the anode and high luminance under low elec. voltage.

IT 709044-63-3P 709044-64-4P 709044-66-6P
709044-67-7P

(polymer involving aryl-substituted amino group for pos. hole-transporting layer in organic electroluminescent device)

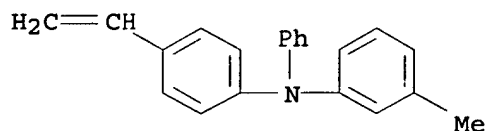
RN 709044-63-3 HCAPLUS

CN Butanedioic acid, methylene-, 4-methyl ester, polymer with N-(4-ethenylphenyl)-3-methyl-N-phenylbenzenamine (9CI) (CA INDEX NAME)

CM 1

CRN 220716-63-2

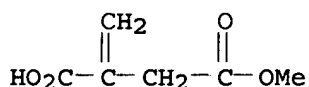
CMF C21 H19 N



CM 2

CRN 7338-27-4

CMF C6 H8 O4



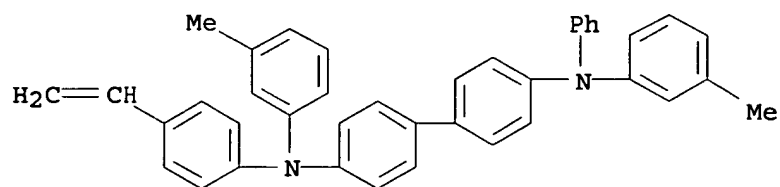
RN 709044-64-4 HCAPLUS

CN Butanedioic acid, methylene-, 4-methyl ester, polymer with N-(4-ethenylphenyl)-N,N'-bis(3-methylphenyl)-N'-phenyl[1,1'-biphenyl]-4,4'-diamine (9CI) (CA INDEX NAME)

CM 1

CRN 227176-02-5

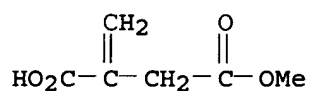
CMF C40 H34 N2



CM 2

CRN 7338-27-4

CMF C6 H8 O4



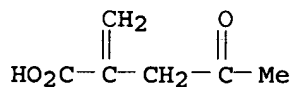
RN 709044-66-6 HCAPLUS

CN Pentanoic acid, 2-methylene-4-oxo-, polymer with
N-(4-ethenylphenyl)-N,N'-bis(4-methoxyphenyl)-N'-(3-
methylphenyl)[1,1'-biphenyl]-4,4'-diamine (9CI) (CA INDEX NAME)

CM 1

CRN 709044-65-5

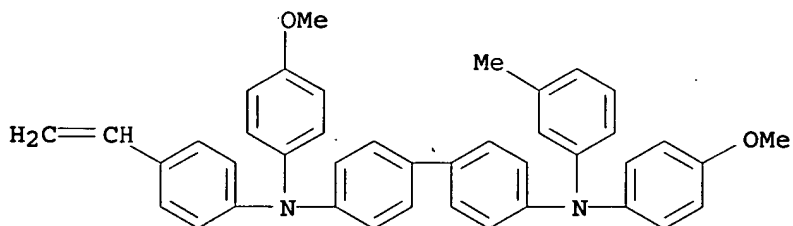
CMF C6 H8 O3



CM 2

CRN 220716-60-9

CMF C41 H36 N2 O2



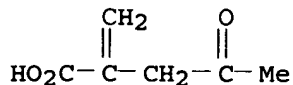
RN 709044-67-7 HCAPLUS

CN Pentanoic acid, 2-methylene-4-oxo-, polymer with
N-(4-ethenylphenyl)-N,N'-bis(3-fluorophenyl)-N'-(3-
methylphenyl)[1,1'-biphenyl]-4,4'-diamine (9CI) (CA INDEX NAME)

CM 1

CRN 709044-65-5

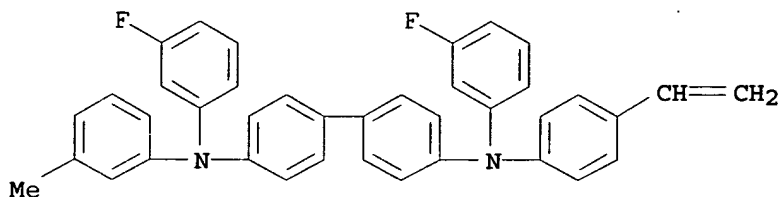
CMF C6 H8 O3



CM 2

CRN 220716-62-1

CMF C39 H30 F2 N2



- IC ICM C08F212-14
ICS C08F226-12; H05B033-10; H05B033-14; H05B033-22; C08F222-02
- CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38
- ST aryl substituted amino contg polymer **electroluminescence**
; **electroluminescent** device polymer pos hole
transporting; diphenylaminophenyl substituted itaconic acid
polymer; carbazolyl substituted itaconic acid polymer; coupler
adhesion pos hole transporting layer anode
- IT Coupling agents
(amino-containing; in manufacture of **electroluminescent**
display using polymer involving aryl-substituted amino group
for pos. hole-transporting layer)
- IT **Electroluminescent** devices
(polymer involving aryl-substituted amino group for pos.
hole-transporting layer in organic **electroluminescent**
device)
- IT 13822-56-5, 3-Aminopropyltrimethoxysilane
(coupler; in manufacture of **electroluminescent** display
using polymer involving aryl-substituted amino group for pos.
hole-transporting layer)
- IT 92-86-4, 4,4'-Dibromobiphenyl 104-94-9, p-Methoxyaniline
106-37-6, 1,4-Dibromobenzene 108-44-1, 3-Methylaniline,
reactions 372-19-0, m-Fluoroaniline 591-17-3, 3-Bromotoluene
1205-64-7 7486-35-3, Tributylvinyltin
(**electroluminescent** display using polymer involving
aryl-substituted amino group from)
- IT 204327-05-9P 207345-05-9P 220716-53-0P 220716-54-1P
220716-56-3P 220716-57-4P 220716-58-5P
(intermediate; **electroluminescent** display using
polymer involving aryl-substituted amino group from)
- IT 220716-60-9P 220716-62-1P 220716-63-2P 220716-02-5P

(monomer; **electroluminescent** display using polymer involving aryl-substituted amino group)
 IT 709044-63-3P 709044-64-4P 709044-66-6P
 709044-67-7P 709044-68-8P
 (polymer involving aryl-substituted amino group for pos. hole-transporting layer in organic **electroluminescent** device)

L19 ANSWER 10 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:250393 HCAPLUS

DOCUMENT NUMBER: 140:294512

TITLE: Organic **electroluminescence** elements with charge-transfer polyesters.

INVENTOR(S): Ishii, Toru; Mashimo, Kiyokazu; Agata, Takeshi; Ozaki, Tadayoshi; Hirose, Eiichi; Okuda, Daisuke; Yoneyama, Hiroto; Seki, Mieko; Sato, Katsuhiko

PATENT ASSIGNEE(S): Fuji Xerox Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 76 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 2004095186	A2	20040325	JP 2002-250428	2002 0829

PRIORITY APPLN. INFO.: JP 2002-250428

2002
0829

AB The disclosed organic **electroluminescent** device has ≥ 1 layers containing a charge transfer polyesters having structure repeating units of the formula $\text{TnOmC}_6\text{H}_4\text{NArX(NAr)pC}_6\text{H}_4\text{OmTn}$ or $\text{TnOmC}_6\text{H}_4\text{C}_6\text{H}_4\text{NArX(NAr)pC}_6\text{H}_4\text{C}_6\text{H}_4\text{OmTn}$ [$m, n, p = 0, 1$; $X =$ divalent aromatic moiety; $\text{Ar} = \text{Ar}_1\text{Z}(\text{Ar}_2\text{Z}_1)\text{qAr}_3$; $\text{Ar}_1 =$ monovalent polycyclic aryl, heterocyclyl; $\text{Ar}_2, \text{Ar}_3 =$ divalent polycyclic aromatic or heterocyclic moiety; $Z, Z_1 = \text{CR:CR}_1$, ethynediyl; $R, R_1 = \text{H}$ or substituent]. The device possesses sufficient brightness, good stability and durability, and useful in large display devices.

IT 675584-16-4P 675584-18-6P 675584-20-0P
 675584-21-1P 675584-22-2P 675584-23-3P

(charge transfer polyester for organic **electroluminescent** display devices)

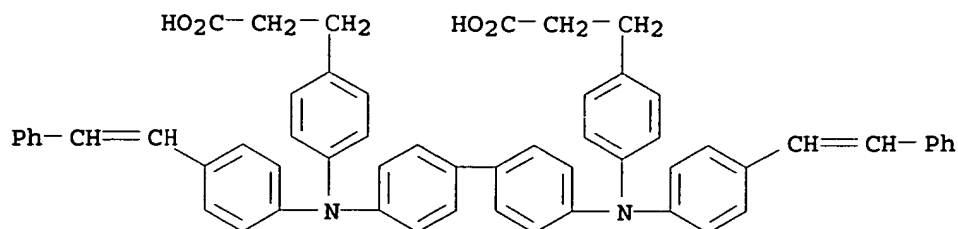
RN 675584-16-4 HCAPLUS

CN Benzenepropanoic acid, 4,4'-[[1,1'-biphenyl]-4,4'-diylbis[[4-(2-phenylethenyl)phenyl]imino]]bis-, polymer with 1,2-ethanediol (9CI) (CA INDEX NAME)

CM 1

CRN 675584-15-3

CMF C58 H48 N2 O4



CM 2

CRN 107-21-1

CMF C2 H6 O2

HO-CH₂-CH₂-OH

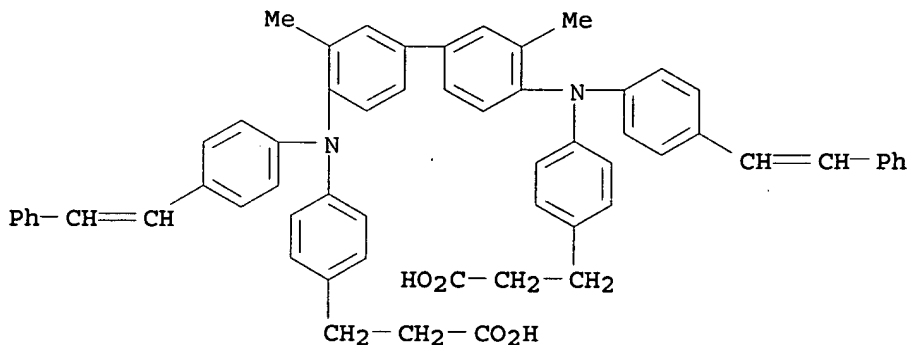
RN 675584-18-6 HCAPLUS

CN Benzenepropanoic acid, 4,4'-[(3,3'-dimethyl[1,1'-biphenyl]-4,4'-diyl)bis[[4-(2-phenylethenyl)phenyl]imino]]bis-, polymer with 1,2-ethanediol (9CI) (CA INDEX NAME)

CM 1

CRN 675584-17-5

CMF C60 H52 N2 O4



CM 2

CRN 107-21-1

CMF C2 H6 O2

HO-CH₂-CH₂-OH

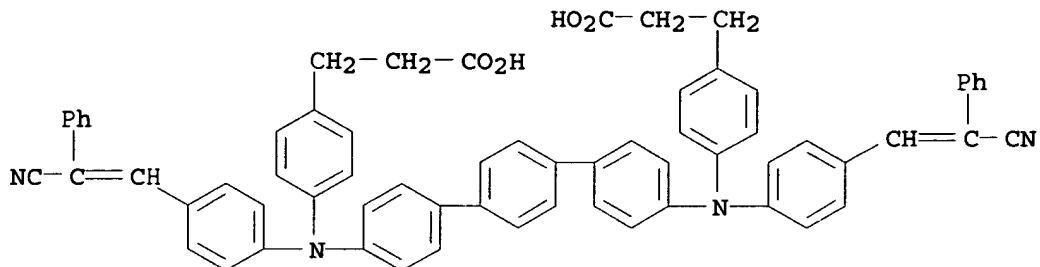
RN 675584-20-0 HCAPLUS

CN Benzenepropanoic acid, 4,4'-[[1,1':4',1''-terphenyl]-4,4''-diylbis[[4-(2-cyano-2-phenylethenyl)phenyl]imino]]bis-, polymer with 1,2-ethanediol (9CI) (CA INDEX NAME)

CM 1

CRN 675584-19-7

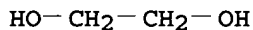
CMF C66 H50 N4 O4



CM 2

CRN 107-21-1

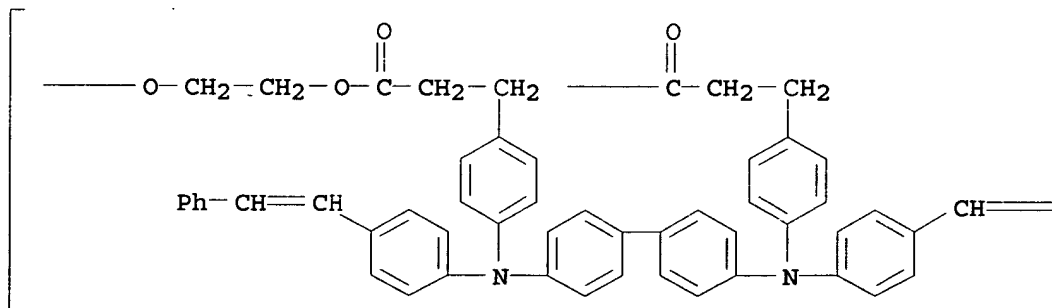
CMF C2 H6 O2



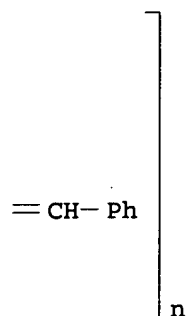
RN 675584-21-1 HCAPLUS

CN Poly[oxy-1,2-ethanediyl oxy(1-oxo-1,3-propanediyl)-1,4-phenylene[[4-(2-phenylethenyl)phenyl]imino][1,1'-biphenyl]-4,4'-diyl[[4-(2-phenylethenyl)phenyl]imino]-1,4-phenylene(3-oxo-1,3-propanediyl)]
(9CI) (CA INDEX NAME)

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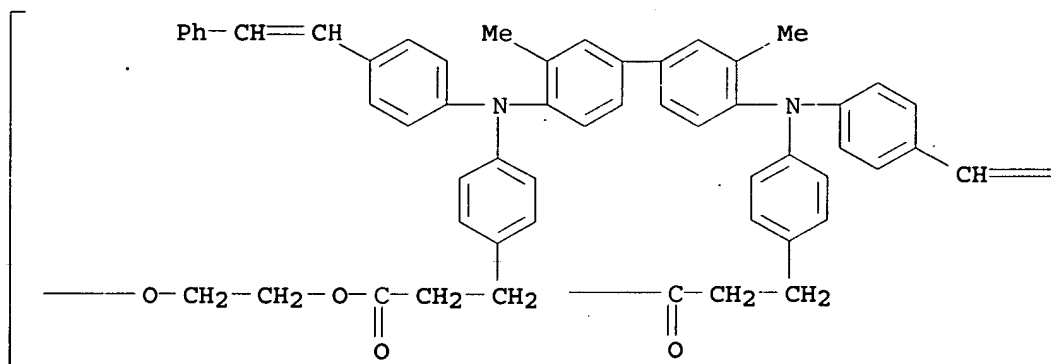
PAGE 1-B



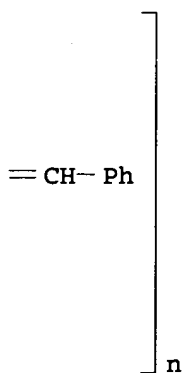
RN 675584-22-2 HCAPLUS

CN Poly[oxy-1,2-ethanediyl oxy(1-oxo-1,3-propanediyl)-1,4-phenylene[[4-(2-phenylethenyl)phenyl]imino](3,3'-dimethyl[1,1'-biphenyl]-4,4'-diyl)[[4-(2-phenylethenyl)phenyl]imino]-1,4-phenylene(3-oxo-1,3-propanediyl)] (9CI) (CA INDEX NAME)

PAGE 1-A

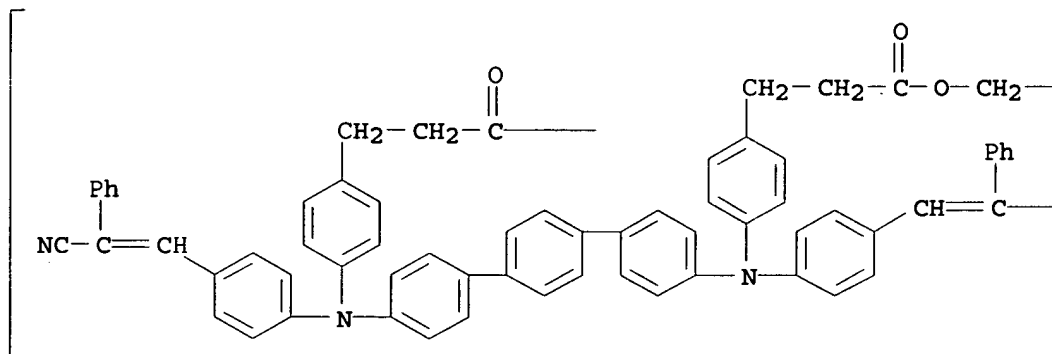


PAGE 1-B

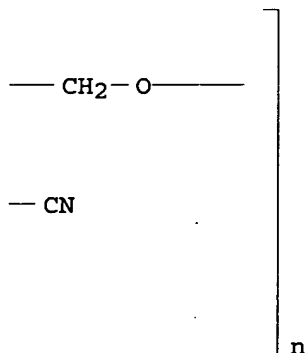


RN 675584-23-3 HCAPLUS
 CN Poly[oxy-1,2-ethanediyl oxy(1-oxo-1,3-propanediyl)-1,4-phenylene[[4-(2-cyano-2-phenylethenyl)phenyl]imino][1,1':4',1''-terphenyl]-4,4''-diyl[[4-(2-cyano-2-phenylethenyl)phenyl]imino]-1,4-phenylene(3-oxo-1,3-propanediyl)] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM H05B033-14
 ICS C08G063-685; C09K011-06; H05B033-22
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and
 Other Related Properties)
 Section cross-reference(s): 74
 ST org electroluminescent display device charge transfer
 polyester
 IT Polyesters, uses
 (charge transfer type; for organic electroluminescent
 display devices)
 IT Electroluminescent devices
 (displays, organic; charge transfer type polyesters for)
 IT Luminescent screens
 (electroluminescent, organic; charge transfer type
 polyesters for)
 IT 675584-16-4P 675584-18-6P 675584-20-0P
 675584-21-1P 675584-22-2P 675584-23-3P
 (charge transfer polyester for organic electroluminescent

display devices)
 IT 517-51-1 2085-33-8 51325-91-8
 (organic electroluminescent display devices containing
 charge-transfer polyester and)

L19 ANSWER 11 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2004:219366 HCAPLUS
 DOCUMENT NUMBER: 140:278198
 TITLE: Organic electroluminescent device
 INVENTOR(S): Okuda, Daisuke; Seki, Mieko; Yoneyama, Hiroto;
 Hirose, Eiichi; Ozaki, Tadayoshi; Agata,
 Takashi; Ishii, Toru; Mashimo, Kiyokazu; Sato,
 Katsuhiro
 PATENT ASSIGNEE(S): Fuji Xerox Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 42 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2004087372	A2	20040318	JP 2002-248676	2002 0828
PRIORITY APPLN. INFO.: JP 2002-248676				2002 0828

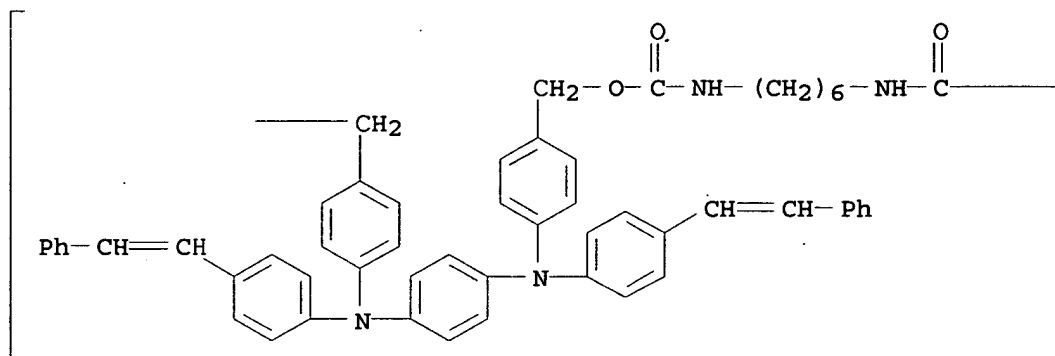
AB The invention relates to an organic electroluminescent device comprising the charge transporting polyurethane containing the partial structure represented by -C₆H₄-N(Ar)X[N(Ar)C₆H₄]_k- and -C₆H₄-C₆H₄-N(Ar)X[N(Ar)C₆H₄-C₆H₄]_k- [X = divalent aromatic group; k = 0 or 1; Ar = Ar₁C(R₁)=C(R₂)-(-Ar₂-C(R₃)=C(R₄)-)n-Ar₃- and Ar₁-C.tplbond.C-(-Ar₂-C.tplbond.C-)n-Ar₃- [Ar₁-3 = benzene ring, and 2-10 ring aromatic hydrocarbons; R₁-4 = H, alkyl, alkoxy, etc.; n = 0-10 integer]].

IT 672941-57-0 672941-60-5 672941-63-8
 (organic electroluminescent device comprising charge
 transporting polyurethane)

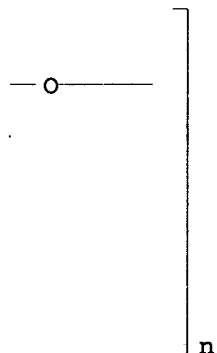
RN 672941-57-0 HCAPLUS

CN Poly[oxycarbonylimino-1,6-hexanediyliminocarbonyloxymethylene-1,4-phenylene[[4-(2-phenylethenyl)phenyl]imino]-1,4-phenylene[[4-(2-phenylethenyl)phenyl]imino]-1,4-phenylenemethylene] (9CI) (CA INDEX NAME)

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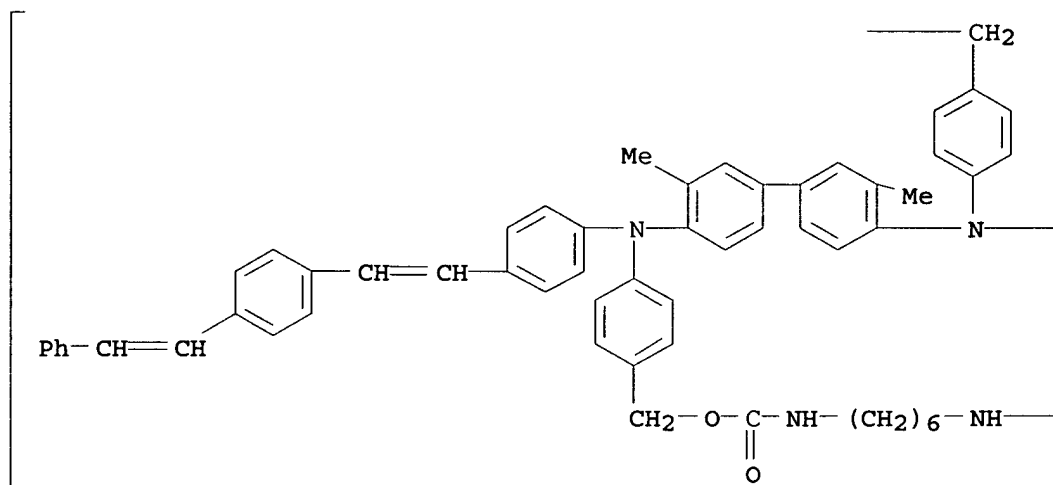


PAGE 1-B

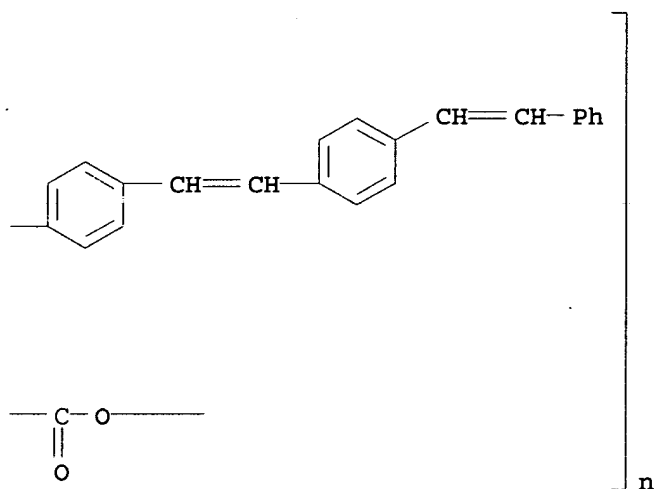


RN 672941-60-5 HCAPLUS
 CN Poly[oxy carbonylimino-1,6-hexanediyliminocarbonyloxymethylene-1,4-phenylene[[4-[2-[4-(2-phenylethenyl)phenyl]ethenyl]phenyl]imino](3,3'-dimethyl[1,1'-biphenyl]-4,4'-diyl)[[4-[2-[4-(2-phenylethenyl)phenyl]ethenyl]phenyl]imino]-1,4-phenylenemethylene] (9CI) (CA INDEX NAME)

PAGE 1-A

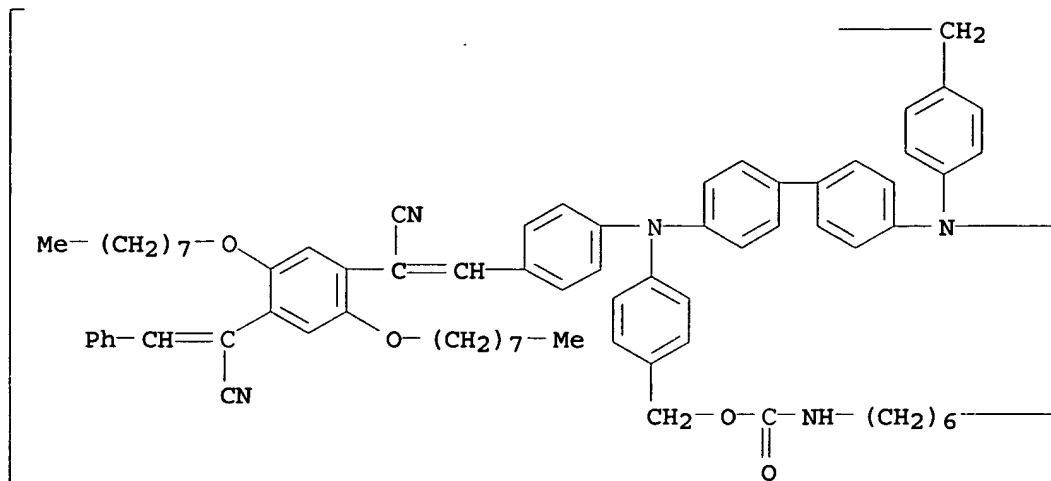


PAGE 1-B

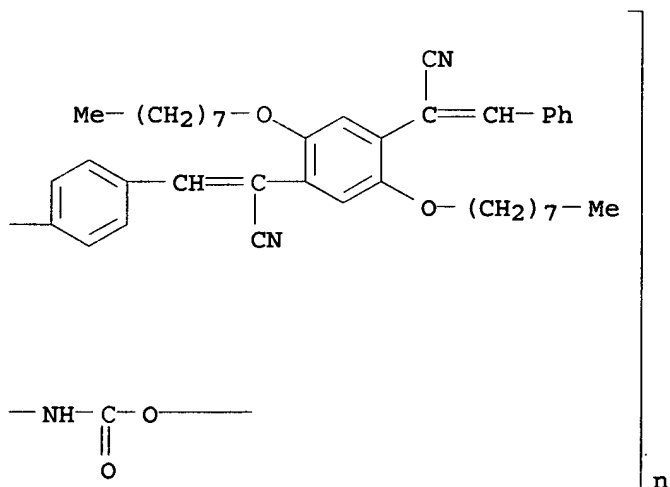


RN 672941-63-8 HCAPLUS
 CN Poly[oxy carbonylimino-1,6-hexanediyliminocarbonyloxymethylene-1,4-phenylene[[4-[2-cyano-2-[4-(1-cyano-2-phenylethenyl)-2,5-bis(octyloxy)phenyl]ethenyl]phenyl]imino][1,1'-biphenyl]-4,4'-diyl[[4-[2-cyano-2-[4-(1-cyano-2-phenylethenyl)-2,5-bis(octyloxy)phenyl]ethenyl]phenyl]imino]-1,4-phenylenemethylene] (9CI) (CA INDEX NAME)

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IC ICM H05B033-14
 ICS C08G018-32; C08G018-78; C09K011-06; H05B033-22
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and
 Other Related Properties)
 Section cross-reference(s): 37, 74
 ST org electroluminescent device charge transporting
 polyurethane
 IT Electroluminescent devices
 (organic electroluminescent device comprising charge
 transporting polyurethane)
 IT Polyurethanes, uses
 (organic electroluminescent device comprising charge
 transporting polyurethane)
 IT 672941-56-9 672941-57-0 672941-59-2

672941-60-5 672941-62-7 672941-63-8
 (organic electroluminescent device comprising charge
 transporting polyurethane)

L19 ANSWER 12 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2004:36710 HCAPLUS
 DOCUMENT NUMBER: 140:94886
 TITLE: Organic charge transporting polymers including
 charge transport moieties and silane groups,
 silsesquioxane compositions prepared
 therefrom, and electrophotographic elements
 comprising charge transport layer
 INVENTOR(S): Ferrar, Wayne T.; Jin, Xin; Sorriero, Louis
 J.; Weiss, David S.
 PATENT ASSIGNEE(S): Heidelberger Druckmaschinen
 Aktiengesellschaft, Germany; Nexpress
 Solutions LLC
 SOURCE: Eur. Pat. Appl., 54 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1380596	A1	20040114	EP 2003-14588	2003 0708
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
US 2004126683	A1	20040701	US 2003-615089	2003 0708
PRIORITY APPLN. INFO.:			US 2002-394377P	P 2002 0708

AB Disclosed are polymers which have tertiary aryl amine moieties that can function as hole transport agents and which also have reactive silane groups capable of being condensed to a silsesquioxane composition, as well as the silsesquioxane compns. prepared therefrom. The silsesquioxanes can be coated onto substrates to form abrasion-resistant layers having hole transport properties useful in devices that require charge transport properties, such as light-emitting diodes and organic electrophotog. elements such as photoreceptors or photoconductors. Also disclosed are electrophotog. elements which comprise an elec. conducting layer, a charge generating layer overlying the elec. conducting layer, and a charge transport layer overlying the elec. conducting layer. The charge transport layer, which can be an overcoat overlying the charge generating layer, comprises the condensed reaction product of the disclosed polymers.

IT 636588-66-4P 643743-21-9P 643743-22-0P
 643743-24-2P

(organic charge transporting polymers containing tertiary aryl amine and trialkoxysilyl groups and their uses in electrophotog.

elements)

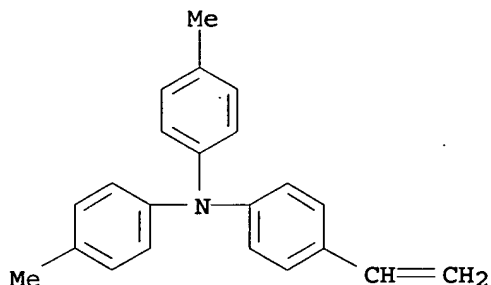
RN 636588-66-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester,
polymer with 4-ethenyl-N,N-bis(4-methylphenyl)benzenamine (9CI)
(CA INDEX NAME)

CM 1

CRN 74065-48-8

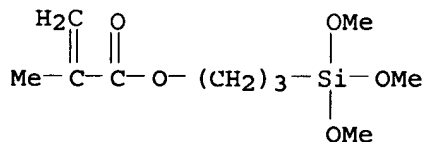
CMF C22 H21 N



CM 2

CRN 2530-85-0

CMF C10 H20 O5 Si



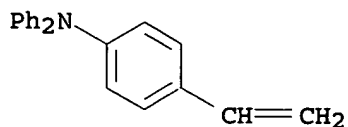
RN 643743-21-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester,
polymer with 4-ethenyl-N,N-diphenylbenzenamine (9CI) (CA INDEX
NAME)

CM 1

CRN 25069-74-3

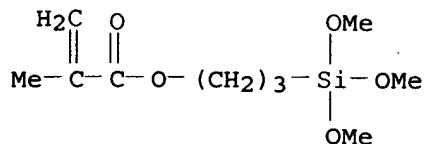
CMF C20 H17 N



CM 2

CRN 2530-85-0

CMF C10 H20 O5 Si



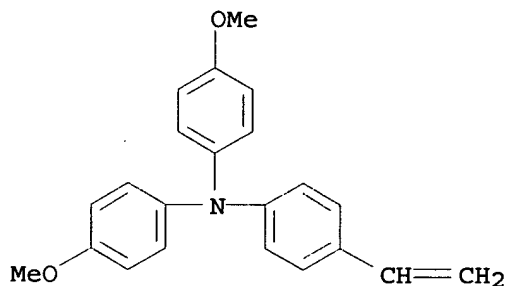
RN 643743-22-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester,
polymer with 4-ethenyl-N,N-bis(4-methoxyphenyl)benzenamine (9CI)
(CA INDEX NAME)

CM 1

CRN 152759-09-6

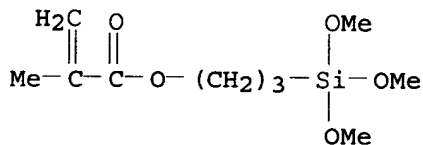
CMF C22 H21 N O2



CM 2

CRN 2530-85-0

CMF C10 H20 O5 Si



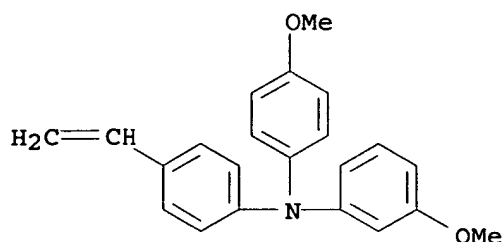
RN 643743-24-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester,
polymer with N-(4-ethenylphenyl)-3-methoxy-N-(4-
methoxyphenyl)benzenamine (9CI) (CA INDEX NAME)

CM 1

CRN 643743-23-1

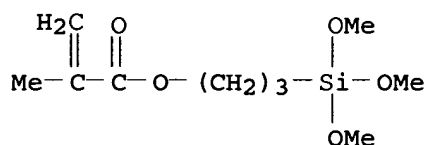
CMF C22 H21 N O2



CM 2

CRN 2530-85-0

CMF C10 H20 O5 Si



IC ICM C08F002-00

ICS C08F008-00; C07F007-00; G03G005-00

CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 74

IT 636588-66-4P 643743-21-9P 643743-22-0P

643743-24-2P 643743-25-3P 643743-26-4P

(organic charge transporting polymers containing tertiary aryl amine and trialkoxysilyl groups and their uses in electrophotog. elements)

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 13 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:527556 HCAPLUS

DOCUMENT NUMBER: 139:108422

TITLE: Organic electroluminescent devices, maleic anhydride polymers for hole-transporting layers thereof, and their manufacture

INVENTOR(S): Kato, Shinji

PATENT ASSIGNEE(S): Kawamura Institute of Chemical Research, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003192730	A2	20030709	JP 2001-393867	2001

PRIORITY APPLN. INFO.:

JP 2001-393867

1226

2001

1226

AB The polymers, showing high solubility in various coating solvents and forming layers with good adhesion to anode layers of organic LED, are copolymers of (un)substituted triphenylamino- or (un)substituted carbazoyl-containing vinyl compds. and maleic anhydride. Also claimed are the organic LED having hole-transporting layers which comprise the polymers or are alternate laminates of the polymer layers and ≥ 2 -amino compound layers, having interlayer amide or imide linkage. In the manufacture of the LED, anode layers of the LED are brought into contact with amine coupling agents and then with the polymer solns., washed on surface to be removed of excess polymers from surface, and then heated at $\geq 100^\circ$.

IT 522632-81-1P 522632-82-2P 522632-83-3P
522632-85-5P

(high-efficiency organic LED including hole-transporting maleic anhydride polymer layers of good adhesion to anodes)

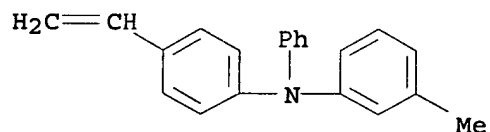
RN 522632-81-1 HCAPLUS

CN 2-Butenedioic acid (2Z)-, monomethyl ester, polymer with N-(4-ethenylphenyl)-3-methyl-N-phenylbenzenamine (9CI) (CA INDEX NAME)

CM 1

CRN 220716-63-2

CMF C21 H19 N

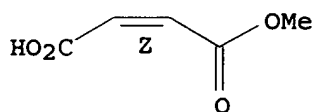


CM 2

CRN 3052-50-4

CMF C5 H6 O4

Double bond geometry as shown.

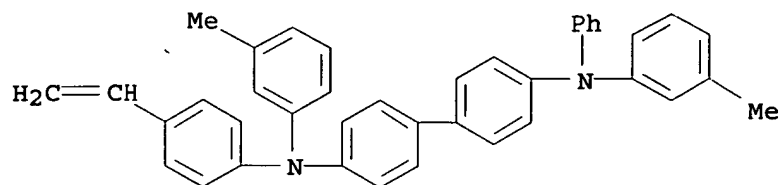


RN 522632-82-2 HCAPLUS

CN 2-Butenedioic acid (2Z)-, monomethyl ester, polymer with N-(4-ethenylphenyl)-N,N'-bis(3-methylphenyl)-N'-phenyl[1,1'-biphenyl]-4,4'-diamine (9CI) (CA INDEX NAME)

CM 1

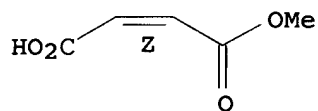
CRN 227176-02-5
CMF C40 H34 N2



CM 2

CRN 3052-50-4
CMF C5 H6 O4

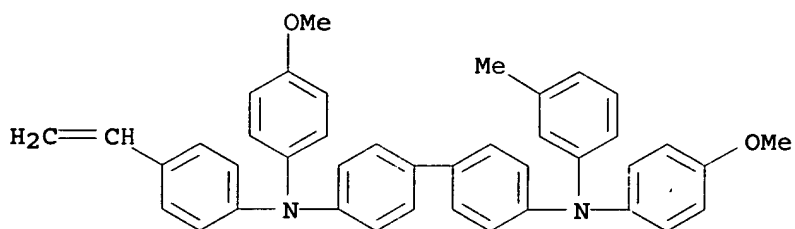
Double bond geometry as shown.



RN 522632-83-3 HCAPLUS
CN 2-Butenedioic acid (2Z)-, monomethyl ester, polymer with
N-(4-ethenylphenyl)-N,N'-bis(4-methoxyphenyl)-N'-(3-
methylphenyl)[1,1'-biphenyl]-4,4'-diamine (9CI) (CA INDEX NAME)

CM 1

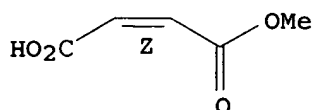
CRN 220716-60-9
CMF C41 H36 N2 O2



CM 2

CRN 3052-50-4
CMF C5 H6 O4

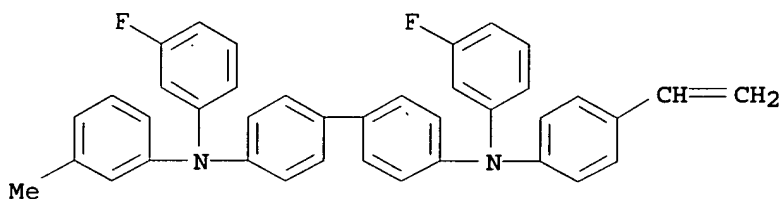
Double bond geometry as shown.



RN 522632-85-5 HCAPLUS
 CN 2-Butenedioic acid (2Z)-, monomethyl ester, polymer with
 N-(4-ethenylphenyl)-N,N'-bis(3-fluorophenyl)-N'-(3-
 methylphenyl) [1,1'-biphenyl]-4,4'-diamine (9CI) (CA INDEX NAME)

CM 1

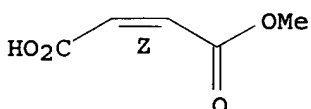
CRN 220716-62-1
 CMF C39 H30 F2 N2



CM 2

CRN 3052-50-4
 CMF C5 H6 O4

Double bond geometry as shown.



IC ICM C08F212-32
 ICS C08F222-06; C08F226-02; H05B033-10; H05B033-14; H05B033-22;
 H05B033-28
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and
 Other Related Properties)
 Section cross-reference(s): 38
 ST maleic anhydride hole transporting polymer LED; methyl
 maleate tolylvinylphenylphenylamine copolymer LED hole
 transporting; ethylenediamine maleic anhydride polymer interlayer
 bound electroluminescent device; anode adhesion hole
 transporting polymer electroluminescent device
 IT Amidation
 (interlayer bonding by; high-efficiency organic LED
 including hole-transporting maleic anhydride polymer layers of
 good adhesion to anodes)
 IT Electroluminescent devices
 (organic; high-efficiency organic LED including
 hole-transporting maleic anhydride polymer layers of good
 adhesion to anodes)

IT Imidation
(thermal, interlayer bonding by; high-efficiency organic LED including hole-transporting maleic anhydride polymer layers of good adhesion to anodes)

IT 13822-56-5, 3-Aminopropyltrimethoxysilane
(coupling agents; high-efficiency organic LED including hole-transporting maleic anhydride polymer layers of good adhesion to anodes)

IT 522632-81-1P 522632-82-2P 522632-83-3P
522632-85-5P 522632-86-6P
(high-efficiency organic LED including hole-transporting maleic anhydride polymer layers of good adhesion to anodes)

IT 204327-05-9P 207345-05-9P 220716-53-0P 220716-54-1P
220716-56-3P 220716-57-4P 220716-58-5P 220716-62-1P
227176-02-5P
(high-efficiency organic LED including hole-transporting maleic anhydride polymer layers of good adhesion to anodes)

IT 92-86-4, 4,4'-Dibromobiphenyl 104-94-9, p-Methoxyaniline
106-37-6 372-19-0, m-Fluoroaniline 591-17-3, 3-Bromotoluene
1205-64-7
(high-efficiency organic LED including hole-transporting maleic anhydride polymer layers of good adhesion to anodes)

IT 107-15-3, Ethylenediamine, uses
(interlayer bonding agents; high-efficiency organic LED including hole-transporting maleic anhydride polymer layers of good adhesion to anodes)

L19 ANSWER 14 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:368922 HCAPLUS
DOCUMENT NUMBER: 138:376128
TITLE: Polymers, organic electroluminescent devices, and their manufacture
INVENTOR(S): Kato, Shinji
PATENT ASSIGNEE(S): Kawamura Institute of Chemical Research, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 21 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003137936	A2	20030514	JP 2002-239205	

2002
0820

PRIORITY APPLN. INFO.: JP 2001-249010 A
2001
0820

AB The polymers comprise $[C(CO_2R)C(CO_2H)(CH_2CHA)_n]_m$ [A = diarylamino phenyl, aryl(diarylamino biphenyl)aminophenyl, (substituted) carbazolyl; R = H, alkyl; m, n ≥ 1]. The polymers are manufactured by addition polymerization of vinyl compds. ACH:CH₂ and ethylenedicarboxylic acid derivs. RO₂CCH:CHCO₂H. The devices comprising substrates having anodes, hole-transporting layers, light-emitting layers, and cathodes are manufactured by (1) contacting the anodes with amino-containing coupling agents to

bond the coupling agents on the anodes, (2) contacting the anodes with solns. of the polymers to adsorb the polymers to the coupling agents, (3) washing to remove the excess polymers, and (4) heating at $\geq 100^\circ$ to form the hole-transporting layers. The devices show good adhesion strength between the hole-transporting layers and the anodes and high luminance by applying low voltage.

IT 522632-81-1P 522632-82-2P 522632-83-3P
522632-85-5P 522632-87-7P

(manufacture of polymers for hole-transporting layers with good adhesion to anodes in electroluminescent devices)

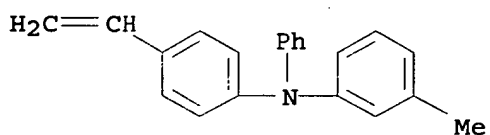
RN 522632-81-1 HCAPLUS

CN 2-Butenedioic acid (2Z)-, monomethyl ester, polymer with N-(4-ethenylphenyl)-3-methyl-N-phenylbenzenamine (9CI) (CA INDEX NAME)

CM 1

CRN 220716-63-2

CMF C21 H19 N

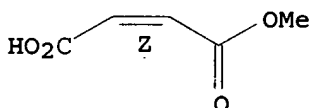


CM 2

CRN 3052-50-4

CMF C5 H6 O4

Double bond geometry as shown.



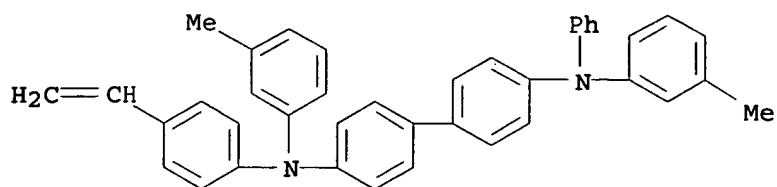
RN 522632-82-2 HCAPLUS

CN 2-Butenedioic acid (2Z)-, monomethyl ester, polymer with N-(4-ethenylphenyl)-N,N'-bis(3-methylphenyl)-N'-phenyl[1,1'-biphenyl]-4,4'-diamine (9CI) (CA INDEX NAME)

CM 1

CRN 227176-02-5

CMF C40 H34 N2

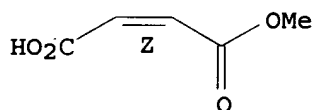


CM 2

CRN 3052-50-4

CMF C5 H6 O4

Double bond geometry as shown.



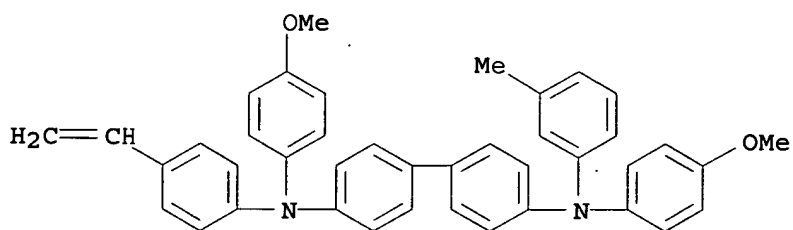
RN 522632-83-3 HCAPLUS

CN 2-Butenedioic acid (2Z)-, monomethyl ester, polymer with
 N-(4-ethenylphenyl)-N,N'-bis(4-methoxyphenyl)-N'-(3-
 methylphenyl)[1,1'-biphenyl]-4,4'-diamine (9CI) (CA INDEX NAME)

CM 1

CRN 220716-60-9

CMF C41 H36 N2 O2

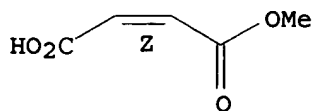


CM 2

CRN 3052-50-4

CMF C5 H6 O4

Double bond geometry as shown.



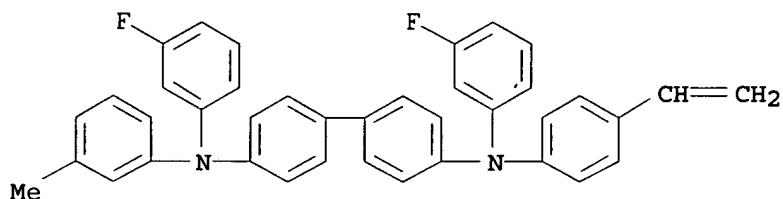
RN 522632-85-5 HCAPLUS

CN 2-Butenedioic acid (2Z)-, monomethyl ester, polymer with
N-(4-ethenylphenyl)-N,N'-bis(3-fluorophenyl)-N'-(3-
methylphenyl) [1,1'-biphenyl]-4,4'-diamine (9CI) (CA INDEX NAME)

CM 1

CRN 220716-62-1

CMF C39 H30 F2 N2

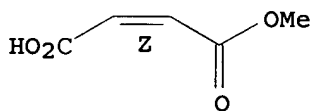


CM 2

CRN 3052-50-4

CMF C5 H6 O4

Double bond geometry as shown.



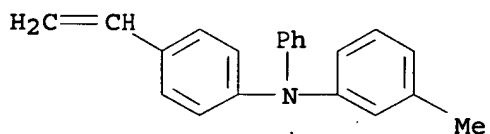
RN 522632-87-7 HCAPLUS

CN 2-Butenedioic acid (2E)-, monoethyl ester, polymer with
N-(4-ethenylphenyl)-3-methyl-N-phenylbenzenamine (9CI) (CA INDEX
NAME)

CM 1

CRN 220716-63-2

CMF C21 H19 N

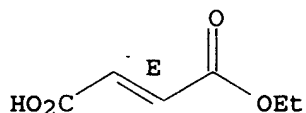


CM 2

CRN 2459-05-4

CMF C6 H8 O4

Double bond geometry as shown.



- IC ICM C08F212-32
ICS C08F222-00; H05B033-10; H05B033-14; H05B033-22
- CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 38
- ST amino ethylenedicarboxylic acid polymer hole transporting;
carbazole ethylenedicarboxylic acid polymer hole transporting;
electroluminescent device polymer hole transporting layer
- IT Coupling agents
(amino-containing; manufacture of polymers for hole-transporting layers with good adhesion to anodes in **electroluminescent** devices)
- IT **Electroluminescent** devices
(manufacture of polymers for hole-transporting layers with good adhesion to anodes in **electroluminescent** devices)
- IT 13822-56-5, 3-Aminopropyltrimethoxysilane
(coupling agents; manufacture of polymers for hole-transporting layers with good adhesion to anodes in **electroluminescent** devices)
- IT 204327-05-9P 207345-05-9P 220716-53-0P 220716-54-1P
220716-56-3P 220716-57-4P 220716-58-5P
(intermediates in monomer preparation; manufacture of polymers for hole-transporting layers with good adhesion to anodes in **electroluminescent** devices)
- IT 522632-81-1P 522632-82-2P 522632-83-3P
522632-85-5P 522632-86-6P 522632-87-7P
(manufacture of polymers for hole-transporting layers with good adhesion to anodes in **electroluminescent** devices)
- IT 220716-60-9P 220716-62-1P 220716-63-2P 220716-64-5P
(manufacture of polymers for hole-transporting layers with good adhesion to anodes in **electroluminescent** devices)
- IT 107-15-3, Ethylenediamine, uses
(manufacture of polymers for hole-transporting layers with good adhesion to anodes in **electroluminescent** devices)
- IT 92-86-4, 4,4'-Dibromobiphenyl 104-94-9, p-Methoxyaniline
106-37-6, 1,4-Dibromobenzene 108-44-1, 3-Methylaniline,
reactions 372-19-0, m-Fluoroaniline 591-17-3, 3-Bromotoluene
1205-64-7 7486-35-3, Tributyl(vinyl)tin
(reactants in monomer preparation; manufacture of polymers for hole-transporting layers with good adhesion to anodes in **electroluminescent** devices)

L19 ANSWER 15 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:828891 HCAPLUS

DOCUMENT NUMBER: 134:23446

TITLE: Tertiary amine-substituted diphenol and aromatic polycarbonate from the diphenol for electrophotographic photoconductor or **electroluminescent** device

INVENTOR(S): Lee, Kung Kuo; Sasaki, Masaomi; Nagai, Kazukiyo; Kawamura, Shinichi; Suzuka, Susumu; Morooka, Katsuhiko

PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan; Hodogaya Chemical Co.,

SOURCE: Ltd.
Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2000327645	A2	20001128	JP 1999-138350	

1999
0519

PRIORITY APPLN. INFO.: JP 1999-138350

1999
0519

OTHER SOURCE(S): MARPAT 134:23446

AB The diphenol is that obtained by reaction of
HOR1Ar1C(:CHAR3NR3R4)Ar2R2OH and MeCO2Ar4COCl [Ar1-Ar4 =
(substituted) arylene; R1, R2 = direct bond, (substituted) aliphatic
hydrocarbylene; R3, R4 = acyl, (substituted) alkyl, (substituted)
aryl] followed by hydrolysis, which is represented as
HOAr4CO2R1Ar1C(:CHAR3NR3R4)Ar2R2OCOAr4OH. The aromatic polycarbonate
is that obtained from the diphenol and a diol by polycondensation.
The polycarbonate is used as a charge-transporting layer in an
electrophotog. photoconductor or **electroluminescent**
device.

IT 309915-92-2P
(tertiary amine-substituted diphenol for aromatic polycarbonate
for electrophotog. photoconductor or **electroluminescent**
device)

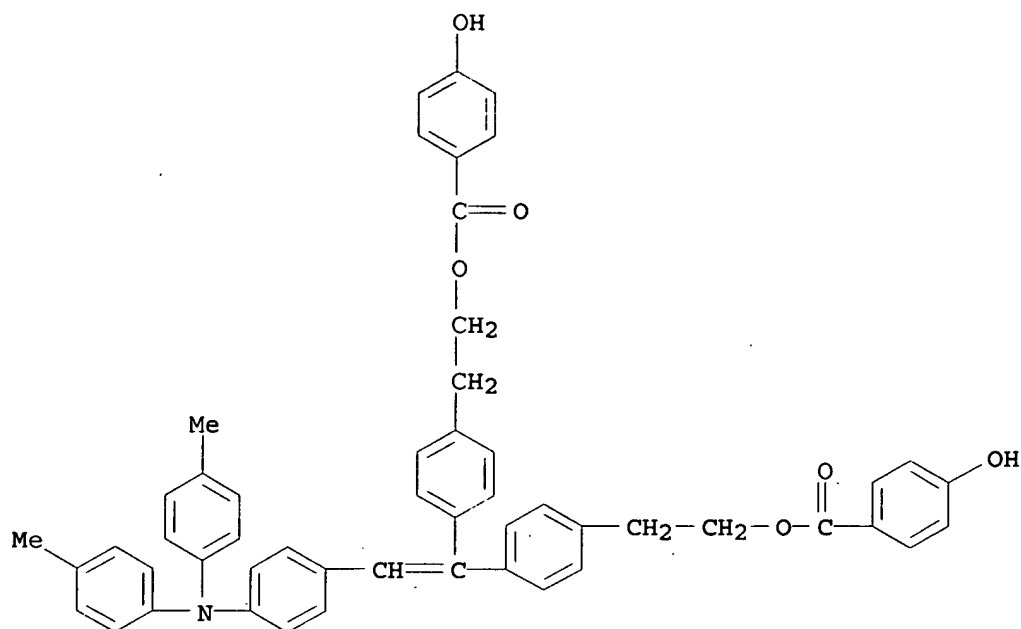
RN 309915-92-2 HCAPLUS

CN Benzoic acid, 4-hydroxy-, [2-[4-[bis(4-
methylphenyl)amino]phenyl]ethenylidene]bis(4,1-phenylene-2,1-
ethanediyl) ester, polymer with carbonic dichloride and
4,4'-(1-methylethylidene)bis[2-methylphenol] (9CI) (CA INDEX
NAME)

CM 1

CRN 306960-14-5

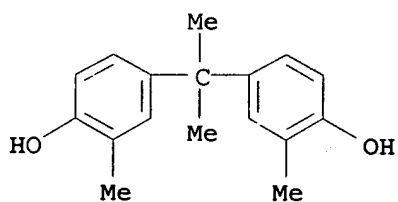
CMF C52 H45 N O6



CM 2

CRN 79-97-0

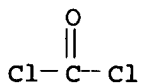
CMF C17 H20 O2



CM 3

CRN 75-44-5

CMF C C12 O



IC ICM C07C219-32

ICS C07C213-00; C08G064-16; C08G064-26

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 25, 35, 38

ST tertiary amine substituted diphenol arom polycarbonate;
electrophotog photoconductor charge transporting arom

- polycarbonate; **electroluminescent** device arom
polycarbonate
- IT Polycarbonates, preparation
(aromatic; tertiary amine-substituted diphenol for aromatic
polycarbonate for electrophotog. photoconductor or
electroluminescent device)
- IT **Electroluminescent** devices
Electrophotographic photoconductors (photoreceptors)
(tertiary amine-substituted diphenol for aromatic polycarbonate
for electrophotog. photoconductor or **electroluminescent**
device)
- IT 186966-53-0P 309915-91-1P
(intermediate; tertiary amine-substituted diphenol for aromatic
polycarbonate for electrophotog. photoconductor or
electroluminescent device from)
- IT 309915-92-2P
(tertiary amine-substituted diphenol for aromatic polycarbonate
for electrophotog. photoconductor or **electroluminescent**
device)
- IT 306960-14-5P
(tertiary amine-substituted diphenol for aromatic polycarbonate
for electrophotog. photoconductor or **electroluminescent**
device)
- IT 75-21-8, Ethylene oxide, reactions 186966-54-1
(tertiary amine-substituted diphenol for aromatic polycarbonate
for electrophotog. photoconductor or **electroluminescent**
device from)

L19 ANSWER 16 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:667632 HCAPLUS

DOCUMENT NUMBER: 133:350655

TITLE: Novel Two-Photon Absorbing Dendritic
Structures

AUTHOR(S): Adronov, Alex; Frechet, Jean M. J.; He, Guang
S.; Kim, Kyoung-Soo; Chung, Sung-Jae;
Swiatkiewicz, Jacek; Prasad, Paras N.

CORPORATE SOURCE: Department of Chemistry, University of
California, Berkeley, CA, 94720-1460, USA

SOURCE: Chemistry of Materials (2000), 12(10),
2838-2841

CODEN: CMATEX; ISSN: 0897-4756

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Dendrimers functionalized with two-photon absorption chromophores
at their chain ends were prepared These dendrimers were highly soluble
in common organic solvents and were fully characterized by ¹H NMR,
¹³C NMR, and MALDI-TOF mass spectrometry. A linear correlation
between the number of peripheral chromophores and the two-photon
absorption cross-section of the mol. was found, indicating that
there were neither cooperative nor deleterious effects in the
dendrimers due to the high local chromophore concentration

IT 306775-63-3P
(preparation and characterization of)

RN 306775-63-3 HCAPLUS

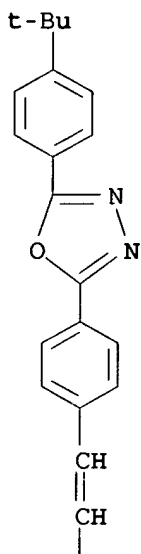
CN 1,3-Benzenedicarboxylic acid, 5-hydroxy-, bis[4-[bis[4-[2-[4-[5-[4-
(1,1-dimethylethyl)phenyl]-1,3,4-oxadiazol-2-
yl]phenyl]ethenyl]phenyl]amino]phenyl] ester, homopolymer (9CI)
(CA INDEX NAME)

CM 1

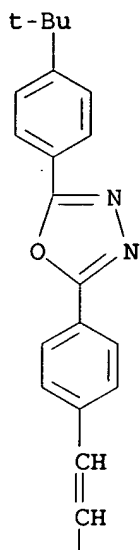
CRN 306775-62-2

CMF C124 H104 N10 O9

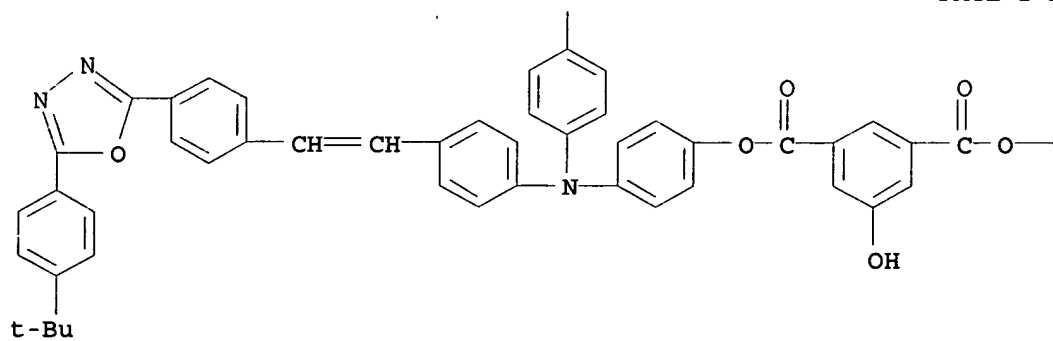
PAGE 1-A



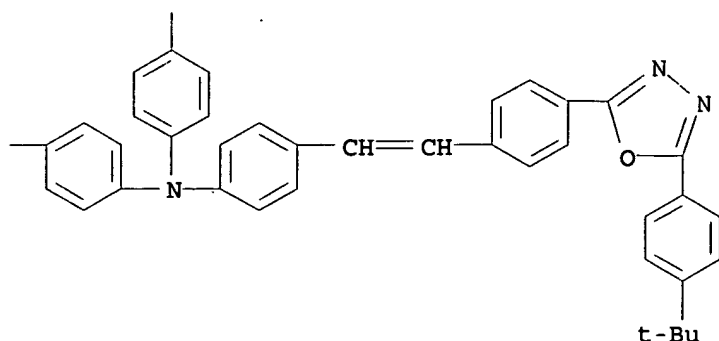
PAGE 1-B



PAGE 2-A



PAGE 2-B



CC 35-7 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 73

IT 306775-63-3P

(preparation and characterization of)

REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L19 ANSWER 17 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:316236 HCAPLUS

DOCUMENT NUMBER: 133:90092

TITLE: Ultrahigh-temperature polymers for
second-order nonlinear optics. Synthesis and
properties of robust, processable,
chromophore-embedded polyimides

AUTHOR(S): Davey, M. H.; Lee, V. Y.; Wu, L.-M.; Moylan,
C. R.; Volksen, W.; Knoesen, A.; Miller, R.
D.; Marks, T. J.

CORPORATE SOURCE: Department of Chemistry and the Materials
Research Center, Northwestern University,
Evanston, IL, 60208-3113, USA

SOURCE: Chemistry of Materials (2000), 12(6),
1679-1693

CODEN: CMATEX; ISSN: 0897-4756

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A general, convergent approach to the synthesis of a series of stilbene- and azo-based donor-acceptor, 2nd-order nonlinear optical (NLO) chromophores is reported. The synthetic strategy enables preparation of both acid- and base-reactive structures, yielding protected, diamine-functionalized chromophores which can be liberated using either acidic or alkaline reagents for incorporation into polyimide backbones. Three such chromophores, i.e., (1) bis(4-aminophenyl)[4-(2-(4-nitrophenyl)vinyl)phenyl]amine, (2) bis(4-aminophenyl)[4-(2-(6-nitrobenzothiazol-2-yl)vinyl)phenyl]amine, and (3) 2-[4-((4-(bis(4-aminophenyl)amino)phenyl)diazanyl)phenyl]-2-phenyl-1,1-dicyanoethylene, all having high thermal stabilities, were synthesized, characterized, and condensed with hexafluoroisopropylidene diphthalic anhydride or 2-(1,3-dioxoisobenzofuran-5-ylcarbonyloxy)ethyl 1,3-dioxoisobenzofuran-5-carboxylate to yield 6 high-glass-transition-temperature polyimides ($T_g \leq 313^\circ$)

for use as poled NLO materials. After casting as thin films, curing, and elec. field corona poling, these materials exhibited $\chi(2)$ (1064 nm) responses ≤ 82.0 pm/V and negligible decay in response upon aging in air at 100° for >1000 h.

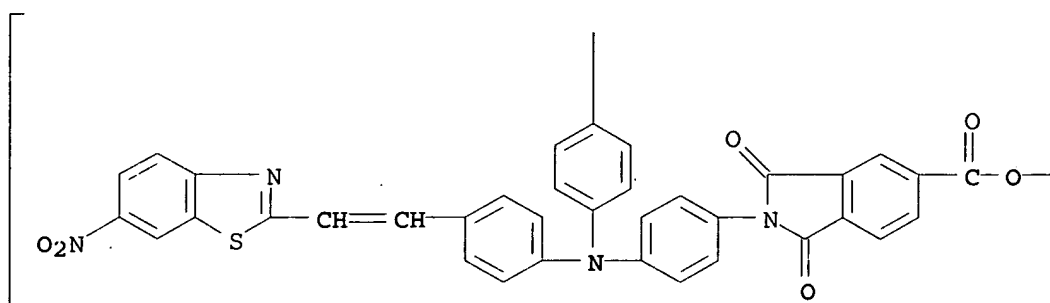
IT 268747-50-8 268747-54-2

(synthesis and properties of chromophore-embedded polyimides for 2nd-order nonlinear optics)

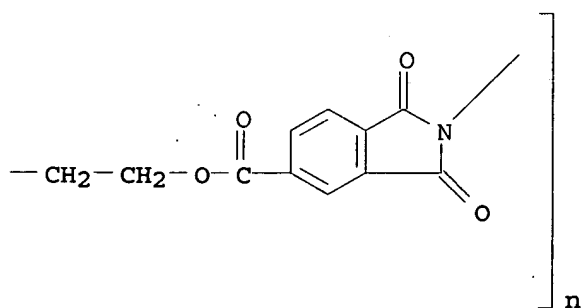
RN 268747-50-8 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)carbonyloxy-1,2-ethanediyloxycarbonyl(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,4-phenylene[[4-[2-(6-nitro-2-benzothiazolyl)ethenyl]phenyl]imino]-1,4-phenylene] (9CI) (CA INDEX NAME)

PAGE 1-A



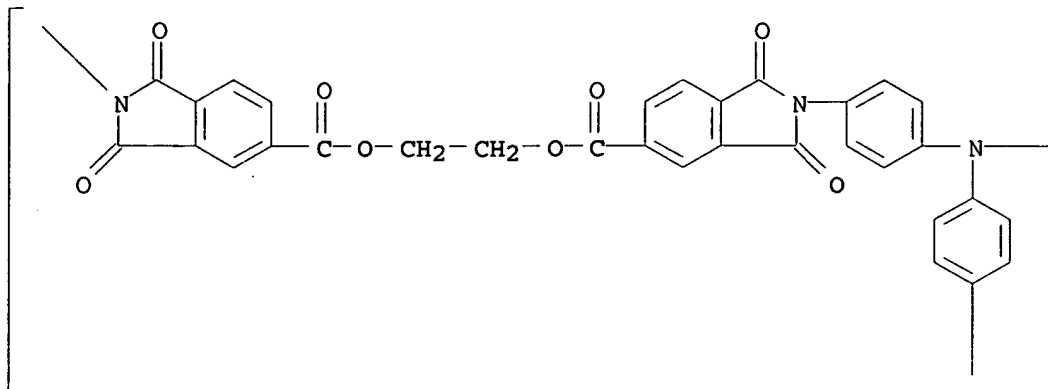
PAGE 1-B



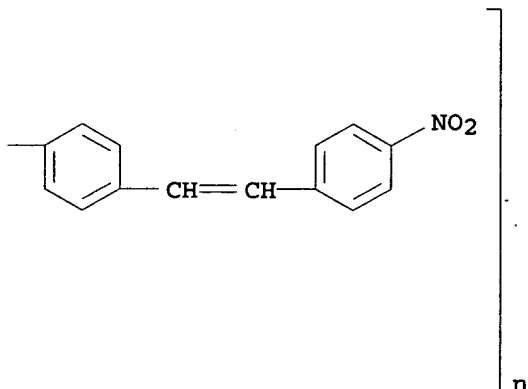
RN 268747-54-2 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)carbonyloxy-1,2-ethanediyloxycarbonyl(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,4-phenylene[[4-[2-(4-nitrophenyl)ethenyl]phenyl]imino]-1,4-phenylene] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 41, 73

IT 268747-47-3 268747-48-4 268747-49-5 268747-50-8
268747-53-1 268747-54-2(synthesis and properties of chromophore-embedded polyimides
for 2nd-order nonlinear optics)REFERENCE COUNT: 71 THERE ARE 71 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L19 ANSWER 18 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:616769 HCAPLUS

DOCUMENT NUMBER: 131:352189

TITLE: **Electroluminescence of organic
light emitting diodes with a
thick hole transport layer composed of a
triphenylamine-based polymer doped with an
antimonium compound**AUTHOR(S): Yamamori, Asuka; Adachi, Chihaya; Koyama,
Toshiki; Taniguchi, Yoshio

CORPORATE SOURCE: Department of Functional Polymer Science,
Shinshu University, Ueda, Nagano, 386-8567,
Japan
SOURCE: Journal of Applied Physics (1999), 86(8),
4369-4376
CODEN: JAPIAU; ISSN: 0021-8979
PUBLISHER: American Institute of Physics
DOCUMENT TYPE: Journal
LANGUAGE: English

AB We investigated the electroluminescence (EL) performance of organic light emitting diodes having a thick doped hole transport layer [(DHTL):650 nm-1.5 μ m]. The basic cell structure is an anode/DHTL/hole transport layer [(HTL):50-60 nm]/emitter layer [(EML):50-60 nm]/cathode. We examined various combinations of host polymers and guest mols. as a component of DHTL in this device structure. During the course of the materials' search, we found that the best combination of a hole transport polycarbonate polymer (PC-TPD-DEG) and a tris (4-bromophenyl) aminium hexachroloantimonate (TBAHA) as a dopant enabled us to form a uniform thick DHTL (typically 650 nm-1.5 μ m thick), which resulted in excellent EL performance. The thick DHTL not only showed considerable reduction in cell resistance compared with a conventional anode/DHTL (without doping)/HTL/EML/cathode device with the same thicknesses of the organic layers, but also greatly contributed to the enhancement of the device stability, particularly to pinhole problems that can occur with conventional 100-nm-thick thin devices. Furthermore, the interposed HTL between DHTL and EML was confirmed to function not only as a HTL but also as electron and exciton blocking layers. Without the HTL, the EL quantum efficiency ($\eta_{\text{vphi,EL}}$) was low, because of the serious exciton energy transfer and/or electron migration from EML to DHTL where the PC-TPD-DEG:TBAHA complex layer had absorption at around 485 nm based on a charge transfer complex between them. We could increase it by interposing a thin transparent N,N'-diphenyl-N,N'-bis(3-Me phenyl)-1,1'-biphenyl-4,4'-diamine or 4,4'-bis[N-(1-naphthyl)-N-phenyl-amino] biphenyl (α -NPD) layer between DHTL and EML, while keeping the driving voltage low. With the DHTL (650 nm, 10 weight % of TBAHA) showed a luminance of 4004 cd/m² at 10.0 V and 220 mA/cm², of which the performance was comparable with that of typical thin film devices. Furthermore, we could expand the DHTL thickness up to 1.5 μ m. An indium tin oxide (ITO)/DHTL (10 weight %)(1.5 μ m)/ α -NPD (60 nm)/Alq (60 nm)/MgAg device showed a luminance of 2600 cd/m² at 18.0 V and 210 mA/cm² with enhanced duration stability. In addition, the duration properties of the devices were also examined in the device structure of an ITO/DHTL (650 nm)/ α -NPD (60 nm)/Alq(doped with rubrene 4.2 weight %) (60 nm)/MgAg. The half decay of the initial luminance successively exceeded over 1000 h under a constant c.d. of 10 mA/cm².

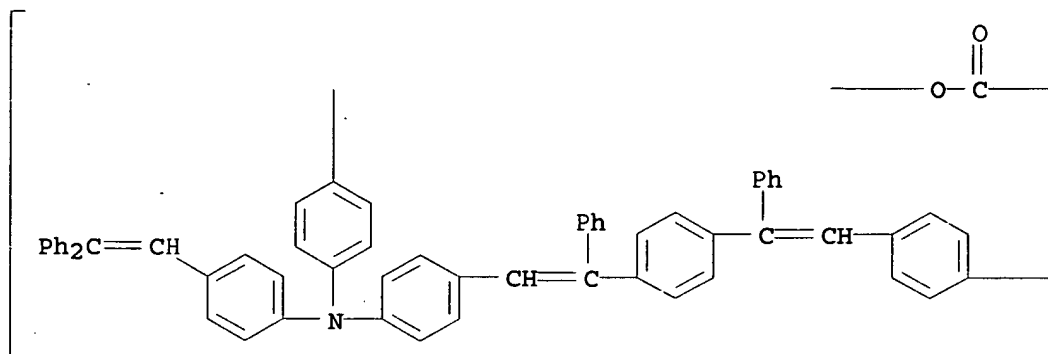
IT 195512-64-2
(electroluminescence of organic light emitting diodes with a thick hole transport layer composed of a triphenylamine-based polymer doped with antimonium compound)

RN 195512-64-2 HCAPLUS

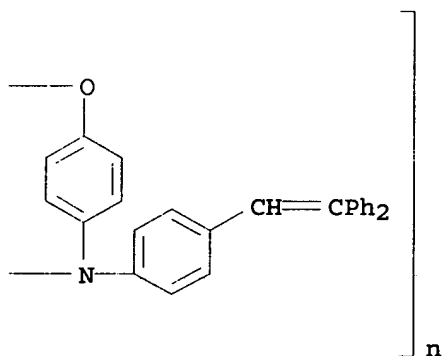
CN Poly[oxycarbonyloxy-1,4-phenylene[[4-(2,2-diphenylethenyl)phenyl]imino]-1,4-phenylene(2-phenyl-1,2-ethenediyl)-1,4-phenylene(1-phenyl-1,2-ethenediyl)-1,4-

phenylene[[4-(2,2-diphenylethenyl)phenyl]imino]-1,4-phenylene]
(9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



- CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 73, 76
- ST **electroluminescence** org **light emitting**
diode; antimonium compd doped triphenylamine based polymer
LED
- IT Current density
Electric conductivity
Electric current-potential relationship
Electroluminescent devices
Hole transport
Luminescence, electroluminescence
(**electroluminescence** of organic **light**
emitting diodes with a thick hole transport layer
composed of a triphenylamine-based polymer doped with
antimonium compound)
- IT **Stability**
(operation; **electroluminescence** of organic **light**
emitting diodes with a thick hole transport layer
composed of a triphenylamine-based polymer doped with
antimonium compound)
- IT Polycarbonates, uses

Polycarbonates, uses
 (polyamine-; electroluminescence of organic
 light emitting diodes with a thick hole
 transport layer composed of a triphenylamine-based polymer
 doped with antimonium compound)

IT Polyamines

Polyamines

(polycarbonate-; electroluminescence of organic
 light emitting diodes with a thick hole
 transport layer composed of a triphenylamine-based polymer
 doped with antimonium compound)

IT 25067-59-8, Poly(vinylcarbazole) 134247-74-8 157244-37-6

195512-64-2 201423-30-5 250691-55-5

(electroluminescence of organic light
 emitting diodes with a thick hole transport layer
 composed of a triphenylamine-based polymer doped with
 antimonium compound)

IT 129-79-3, TNF 1518-16-7 3144-16-9, Camphorsulfonic acid

7553-56-2, Iodine, uses 7705-08-0, Ferric chloride, uses

10025-91-9 24964-91-8, Tris(4-bromophenyl)aminium

hexachloroantimonate 63212-53-3, 2-Chloro-3-ethylbenzoxazolium

tetrafluoroborate

(electroluminescence of organic light
 emitting diodes with a thick hole transport layer
 composed of a triphenylamine-based polymer doped with
 antimonium compound)

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L19 ANSWER 19 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:182786 HCAPLUS

DOCUMENT NUMBER: 130:259360

TITLE: Multilayer electroluminescent device
 including vinyl polymer and showing good
 luminescent characteristics

INVENTOR(S): Kido, Junji; Igarashi, Tatsuya; Okada,
 Hisashi; Yamanouchi, Junichi

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 11074077	A2	19990316	JP 1997-232743	

1997

0828

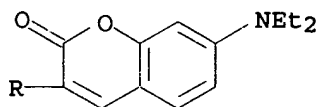
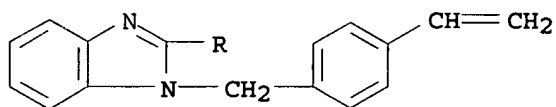
PRIORITY APPLN. INFO.: JP 1997-232743

1997

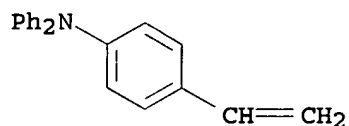
0828

AB Title device, showing excellent durability, contains a polymer
 containing ≥ 1 repeating unit $[\text{CR}_1(\text{L}_1\text{nZ})\text{CH}_2]_{\text{m}1}$ [$\text{R}_1 = \text{H}$, alkyl,
 aryl; $\text{L}_1 = \text{phenylene}$, O , CH_2 , A ($\text{Q} = 5\text{- or } 6\text{-membered azacycle}$);
 $\text{n}1 = 0, 1$; $\text{m}1 \geq 1$; $\text{Z}1 = \text{fluorescent dye residue}$].

IT 221464-01-3P
 (multilayer **electroluminescent** device including vinyl
 polymer and showing good **luminescent** characteristics)
 RN 221464-01-3 HCAPLUS
 CN 2H-1-Benzopyran-2-one, 7-(diethylamino)-3-[1-[(4-
 ethenylphenyl)methyl]-1H-benzimidazol-2-yl]-, polymer with
 4-ethenyl-N,N-diphenylbenzenamine (9CI) (CA INDEX NAME)
 CM 1
 CRN 221463-98-5
 CMF C29 H27 N3 O2



CM 2
 CRN 25069-74-3
 CMF C20 H17 N



IC ICM H05B033-14
 ICS C08F012-00; C08F016-14; C08F024-00; C08F026-00; C08F246-00;
 C08L025-18; C08L029-10; C08L037-00; C08L039-04; C08L057-00;
 C09K011-06
 CC 73-11 (**Optical**, Electron, and Mass Spectroscopy and
 Other Related Properties)
 Section cross-reference(s): 38
 ST **electroluminescent** device multilayer vinyl polymer
 contg; **luminance** durability laminated
electroluminescent device
 IT **Electroluminescent** devices
 (multilayer **electroluminescent** device including vinyl
 polymer and showing good **luminescent** characteristics)
 IT 58851-99-3P 221463-98-5P 221463-99-6P
 (in preparation of vinyl monomer for multilayer
electroluminescent device)
 IT 95-01-2, 4-Hydroxysalicylaldehyde 1592-20-7 27425-55-4
 29182-42-1
 (in preparation of vinyl monomer for multilayer

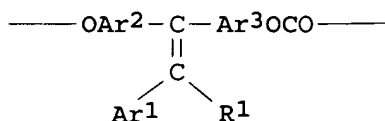
electroluminescent device)
 IT 221464-00-2P 221464-01-3P 221464-03-5P 221464-04-6P
 221464-06-8P 221464-09-1P 221464-11-5P 221464-14-8P
 221464-17-1P 221552-95-0P
 (multilayer electroluminescent device including vinyl
 polymer and showing good luminescent characteristics)

L19 ANSWER 20 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1999:163164 HCAPLUS
 DOCUMENT NUMBER: 130:244249
 TITLE: Organic thin film electroluminescent
 device containing aromatic polycarbonate
 resin
 INVENTOR(S): Nagai, Kazukiyo; Adachi, Chihaya
 PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 47 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 11067452	A2	19990309	JP 1997-228919	1997 0811
JP 3578253	B2	20041020	JP 1997-228919	1997 0811

PRIORITY APPLN. INFO.:
 1997
0811

GI



I

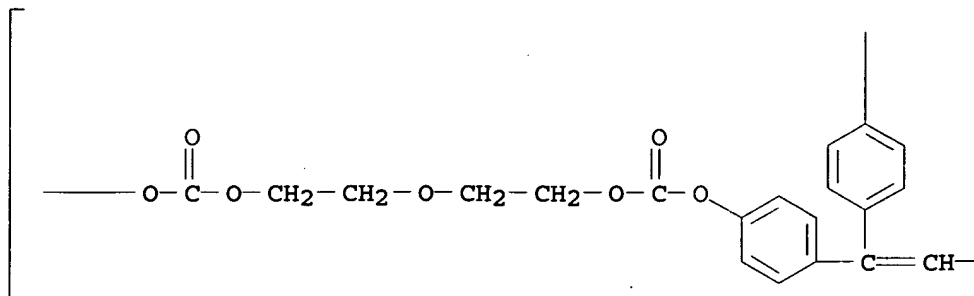
AB The device is equipped with a **light-emitting** layer comprising a mono or multi layer organic compound thin film between an anode and a cathode, in which the film contains an aromatic polycarbonate having a formula I (R1 = H, alkyl, aryl; Ar1 = aryl; Ar2, 3 = arylene). The device is equipped with a **light-emitting** layer comprising multi layer organic compound thin films, in which the **light-emitting** layer consists of a layer containing the polycarbonate, a hole- and/or electron-injection transfer layer, or a hole- and electron-injection transfer layer. The device shows heat resistance, mech. strength, and excellent durability.

IT 198983-05-0 198983-18-5 198983-24-3
 198983-30-1 198983-51-6 221237-35-0
 (organic thin-film electroluminescent device containing aromatic polycarbonate)

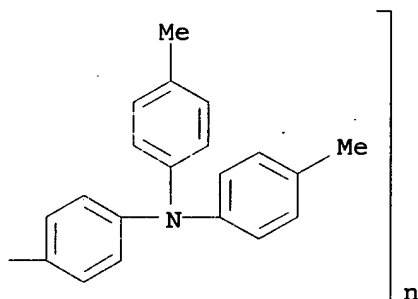
RN 198983-05-0 HCAPLUS
 CN Poly[oxycarbonyloxy-1,2-ethanedidyloxy-1,2-ethanedidyloxycarbonyloxy-

1,4-phenylene[[4-[bis(4-methylphenyl)amino]phenyl]ethenylidene]-
1,4-phenylene] (9CI) (CA INDEX NAME)

PAGE 1-A

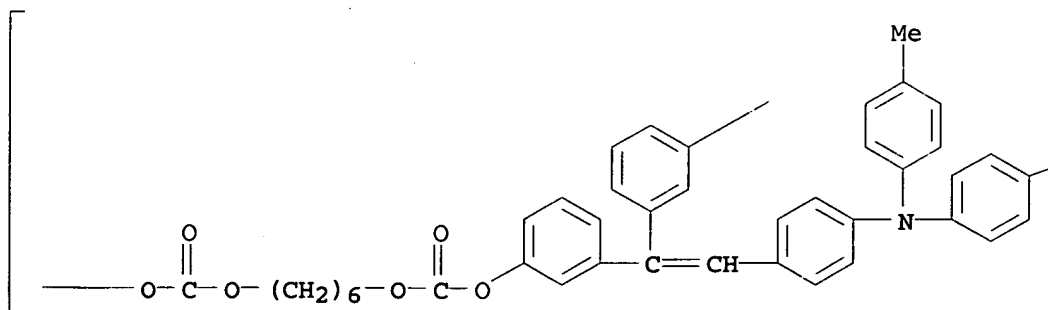


PAGE 1-B

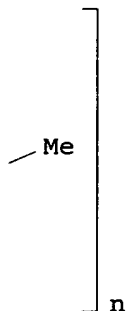


RN 198983-18-5 HCAPLUS
CN Poly[oxycarbonyloxy-1,6-hexanediylloxycarbonyloxy-1,3-phenylene[[4-[
bis(4-methylphenyl)amino]phenyl]ethenylidene]-1,3-phenylene]
(9CI) (CA INDEX NAME)

PAGE 1-A



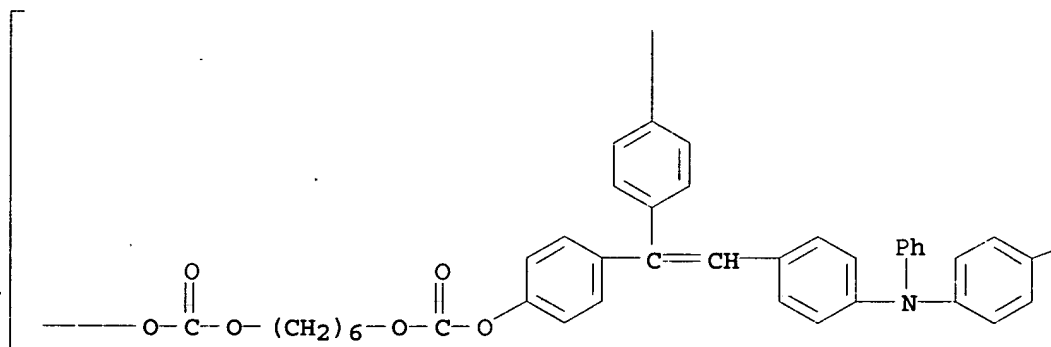
PAGE 1-B



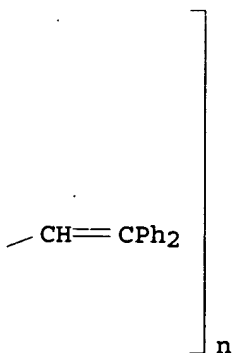
RN 198983-24-3 HCAPLUS

CN Poly[oxy carbonyloxy-1,6-hexanediyl oxy carbonyloxy-1,4-phenylene [[4-
[[4-(2,2-diphenylethenyl)phenyl]phenylamino]phenyl]ethenylidene]-
1,4-phenylene] (9CI) (CA INDEX NAME)

PAGE 1-A



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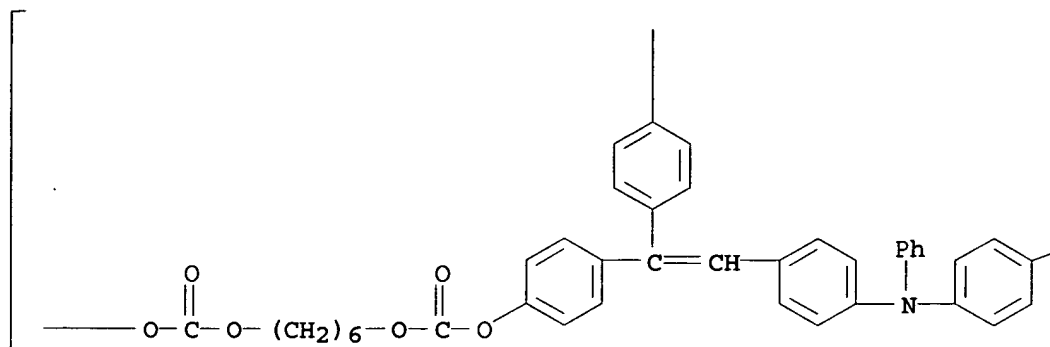


RN 198983-30-1 HCAPLUS

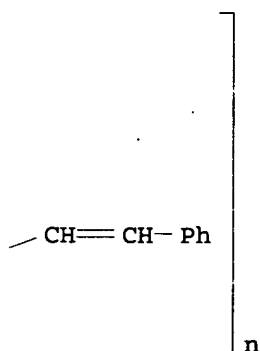
CN Poly[oxy carbonyloxy-1,6-hexanediyl oxy carbonyloxy-1,4-phenylene [[4-
[phenyl [4-(2-phenylethenyl)phenyl] amino]phenyl]ethenylidene]-1,4-

phenylene] (9CI) (CA INDEX NAME)

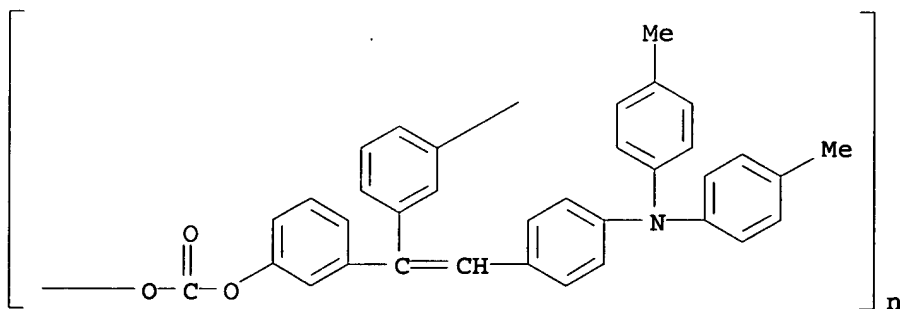
PAGE 1-A



PAGE 1-B



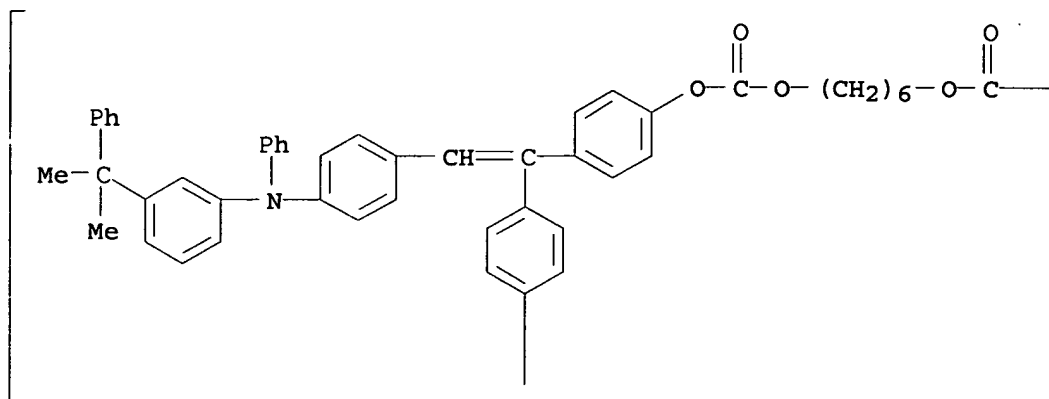
RN 198983-51-6 HCAPLUS
 CN Poly[oxy carbonyloxy-1,3-phenylene[[4-[bis(4-methylphenyl)amino]phenyl]ethenylidene]-1,3-phenylene] (9CI) (CA INDEX NAME)



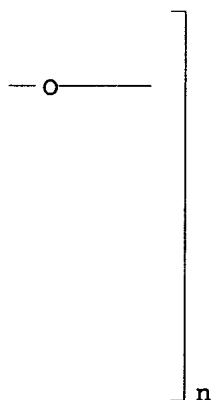
RN 221237-35-0 HCAPLUS
 CN Poly[oxy carbonyloxy-1,6-hexanedioxy carbonyloxy-1,4-phenylene[[4-[[3-(1-methyl-1-phenylethyl)phenyl]phenylamino]phenyl]ethenylidene]

]-1,4-phenylene] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM H05B033-14
ICS C09K011-06; H05B033-22
CC 73-12 (Optical, Electron, and Mass Spectroscopy and
Other Related Properties)
Section cross-reference(s): 38
ST electroluminescent film device arom polycarbonate
IT Polycarbonates, uses
(aromatic; organic thin-film electroluminescent device
containing aromatic polycarbonate)
IT Electroluminescent devices
(organic thin-film electroluminescent device containing
aromatic polycarbonate)
IT 198983-04-9 198983-05-0 198983-11-8 198983-12-9
198983-17-4 198983-18-5 198983-23-2
198983-24-3 198983-29-8 198983-30-1
198983-50-5 198983-51-6 198983-53-8 198983-60-7
198983-61-8 220309-09-1 221237-35-0 221237-39-4
221237-44-1 221237-50-9 255827-76-0 320339-87-5

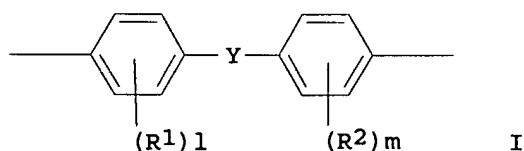
(organic thin-film **electroluminescent** device containing aromatic polycarbonate)

L19 ANSWER 21 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1999:111660 HCAPLUS
 DOCUMENT NUMBER: 130:202698
 TITLE: Organic thin film **electroluminescent** device
 INVENTOR(S): Nagai, Kazukiyo; Tanaka, Kazuaki; Adachi, Chihaya
 PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11040363	A2	19990212	JP 1997-205289	1997 0715
JP 3578251	B2	20041020	JP 1997-205289	1997 0715

PRIORITY APPLN. INFO.:

GI



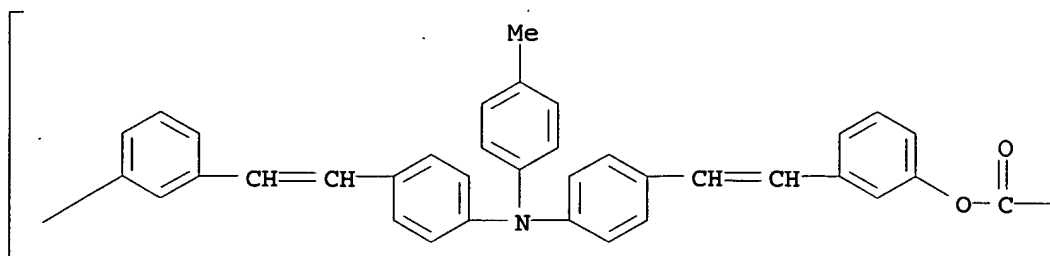
AB An organic thin film **electroluminescent** device comprises an organic layer containing aromatic polycarbonate represented by (OAr₁CH:CHAr₂N(Ar₅)Ar₃CH:CHAr₄OOCOXOOC)_n [Ar₁-4 = divalent aromatic hydrocarbon and heterocyclic groups; Ar₅ = aromatic hydrocarbon and heterocyclic groups; n = 5-5000 integer; X = divalent aliphatic group, I [R₁-2 = alkyl, aromatic hydrocarbon, and halo; l, m = 0-4 integer; Y = single bond, C₁-12 =alkylene, O, S, SO, SO₂, CO, COOZOOC [Z = divalent aliphatic group]], and (CH₂)_a(Si(R₃)(R₄)O)_bSi(R₃)(R₄)(CH)_a [R₃-4 alkyl, and aromatic hydrocarbon; a = 0-20 integer; b = 1-2000 integer]].

IT 195974-66-4P 195974-74-4P 195974-76-6P
 195974-78-8P 195974-81-3P 195974-85-7P
 220785-64-8DP, terminated by 4-tert-butylphenol
 (organic thin film **electroluminescent** device)

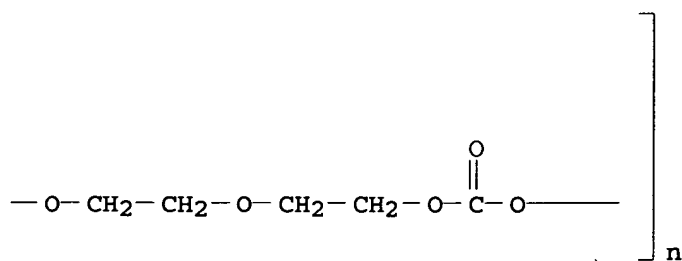
RN 195974-66-4 HCAPLUS

CN Poly[oxycarbonyloxy-1,2-ethanediylloxy-1,2-ethanediylloxycarbonyloxy-1,3-phenylene-1,2-ethenediyl-1,4-phenylene[(4-methylphenyl)imino]-1,4-phenylene-1,2-ethenediyl-1,3-phenylene] (9CI) (CA INDEX NAME)

PAGE 1-A



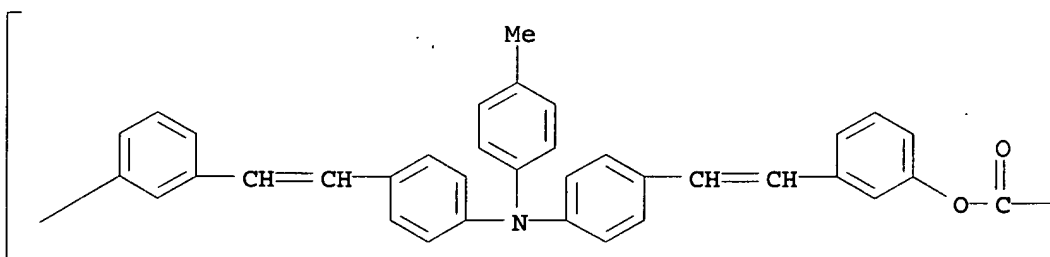
PAGE 1-B



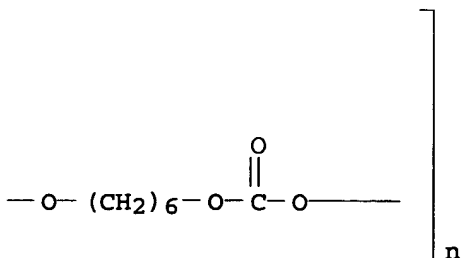
RN 195974-74-4 HCAPLUS

CN Poly[oxy-carbonyloxy-1,6-hexanediyl-oxy-carbonyloxy-1,3-phenylene-1,2-ethenediyl-1,4-phenylene[(4-methylphenyl)imino]-1,4-phenylene-1,2-ethenediyl-1,3-phenylene] (9CI) (CA INDEX NAME)

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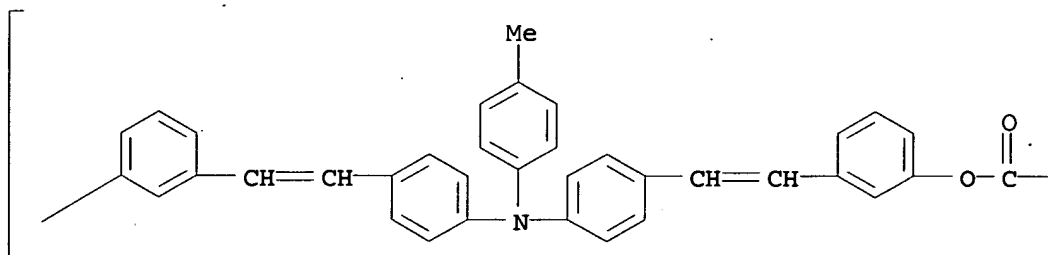


PAGE 1-B

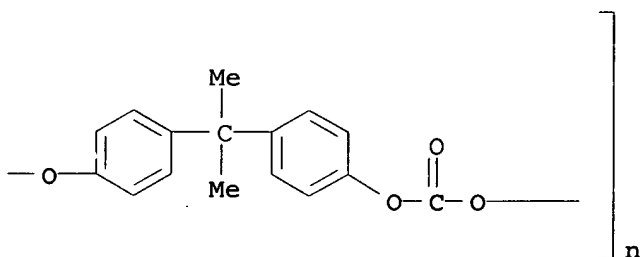


RN 195974-76-6 HCAPLUS
 CN Poly[oxy carbonyloxy-1,4-phenylene(1-methylethylidene)-1,4-phenyleneoxy carbonyloxy-1,3-phenylene-1,2-ethenediyl-1,4-phenylene[(4-methylphenyl)imino]-1,4-phenylene-1,2-ethenediyl-1,3-phenylene] (9CI) (CA INDEX NAME)

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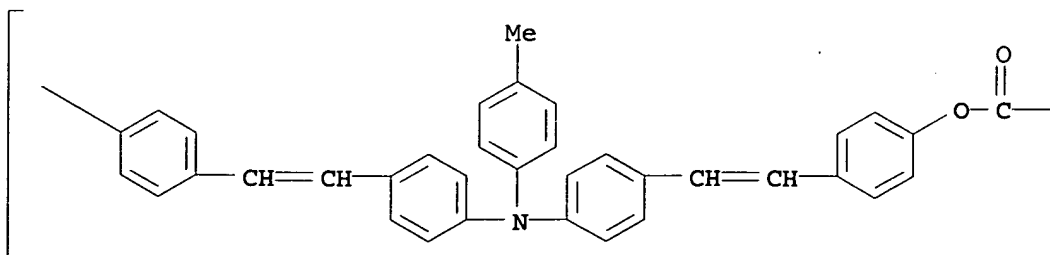


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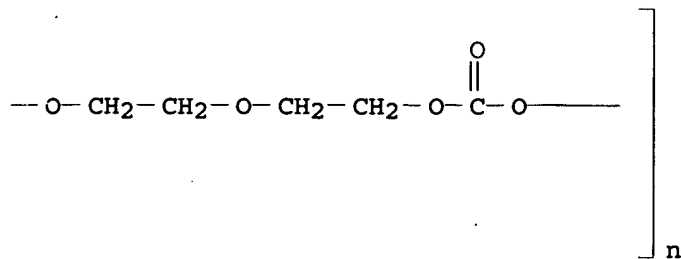


RN 195974-78-8 HCAPLUS
 CN Poly[oxy carbonyloxy-1,2-ethanediyl oxy-1,2-ethanediyl oxy carbonyloxy-1,4-phenylene-1,2-ethenediyl-1,4-phenylene[(4-methylphenyl)imino]-1,4-phenylene-1,2-ethenediyl-1,4-phenylene] (9CI) (CA INDEX NAME)

PAGE 1-A



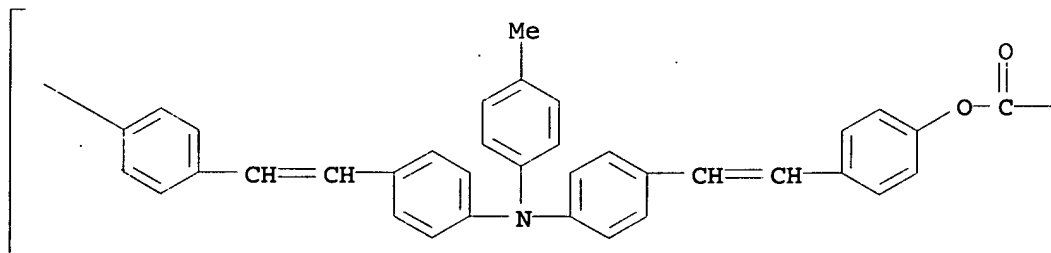
PAGE 1-B



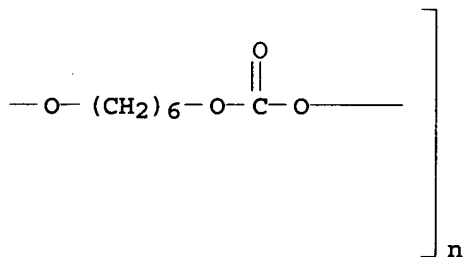
RN 195974-81-3 HCAPLUS

CN Poly[oxy carbonyloxy-1,6-hexanediyl oxy carbonyloxy-1,4-phenylene-1,2-ethenediyl-1,4-phenylene[(4-methylphenyl)imino]-1,4-phenylene-1,2-ethenediyl-1,4-phenylene] (9CI) (CA INDEX NAME)

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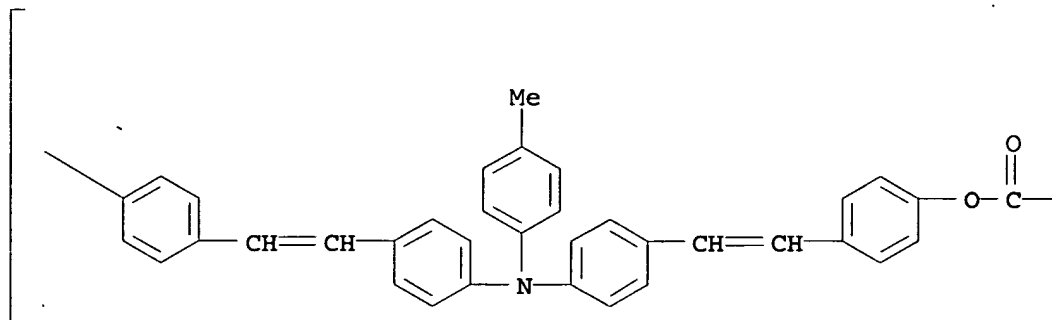
PAGE 1-B



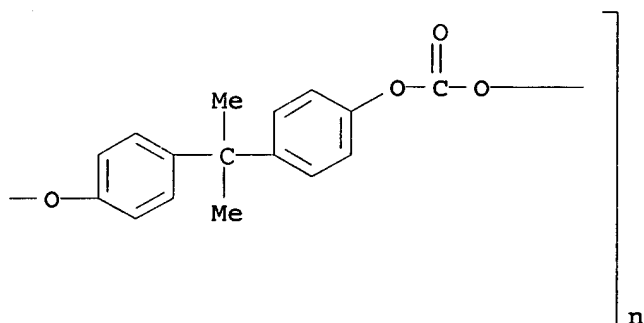
RN 195974-85-7 HCAPLUS

CN Poly[oxy carbonyloxy-1,4-phenylene(1-methylethylidene)-1,4-phenyleneoxy carbonyloxy-1,4-phenylene-1,2-ethenediyl-1,4-phenylene[(4-methylphenyl)imino]-1,4-phenylene-1,2-ethenediyl-1,4-phenylene] (9CI) (CA INDEX NAME)

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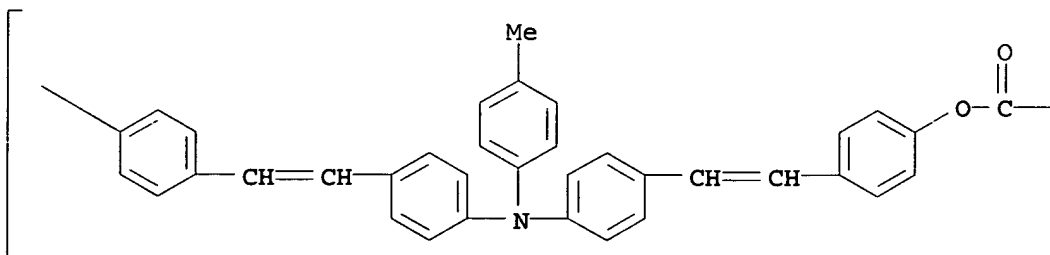
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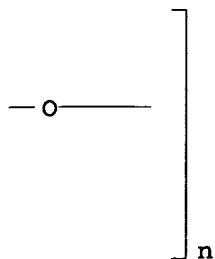
RN 220785-64-8 HCAPLUS

CN Poly[oxy carbonyloxy-1,4-phenylene-1,2-ethenediyl-1,4-phenylene[(4-methylphenyl)imino]-1,4-phenylene-1,2-ethenediyl-1,4-phenylene]
(9CI) (CA INDEX NAME)

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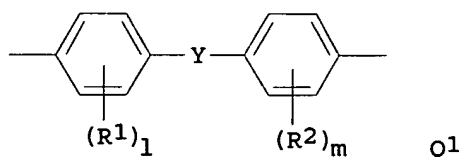
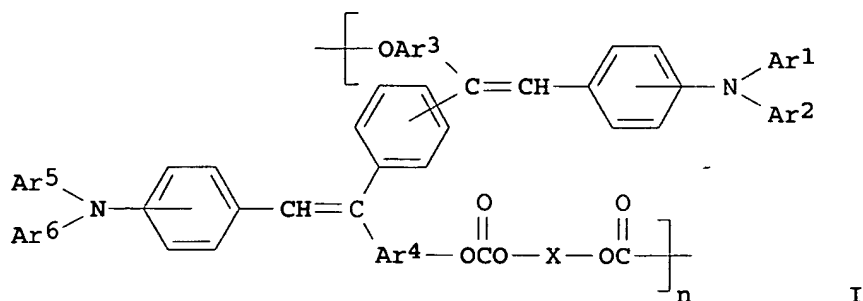
IC ICM H05B033-14
ICS C09K011-06; H05B033-22
CC 73-11 (Optical, Electron, and Mass Spectroscopy and
Other Related Properties)
Section cross-reference(s): 38
ST org thin film **electroluminescent** device arom
polycarbonate
IT Polycarbonates, uses
(aromatic; organic thin film **electroluminescent** device)
IT **Electroluminescent** devices
(organic thin film **electroluminescent** device)
IT 194411-69-3P 195974-63-1P **195974-66-4P**
195974-74-4P **195974-76-6P** 195974-77-7P
195974-78-8P **195974-81-3P** **195974-85-7P**
195974-86-8P 195974-87-9P 195974-90-4P 195974-93-7P
195974-94-8DP, terminated by 4-tert-butylphenol 220785-55-7P
220785-57-9P 220785-58-0P 220785-58-0P 220785-59-1P
220785-60-4P 220785-61-5P 220785-62-6P 220785-63-7P
220785-64-8DP, terminated by 4-tert-butylphenol
(organic thin film **electroluminescent** device)

L19 ANSWER 22 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1999:78779 HCAPLUS
DOCUMENT NUMBER: 130:175065
TITLE: Organic thin film **electroluminescent**
device containing polycarbonate resin
INVENTOR(S): Nagai, Kazukiyo; Atachi, Chihaya
PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11031583	A2	19990202	JP 1997-193184	1997 0703
JP 3578250	B2	20041020	JP 1997-193184	1997 0703

PRIORITY APPLN. INFO.: JP 1997-193184

GI



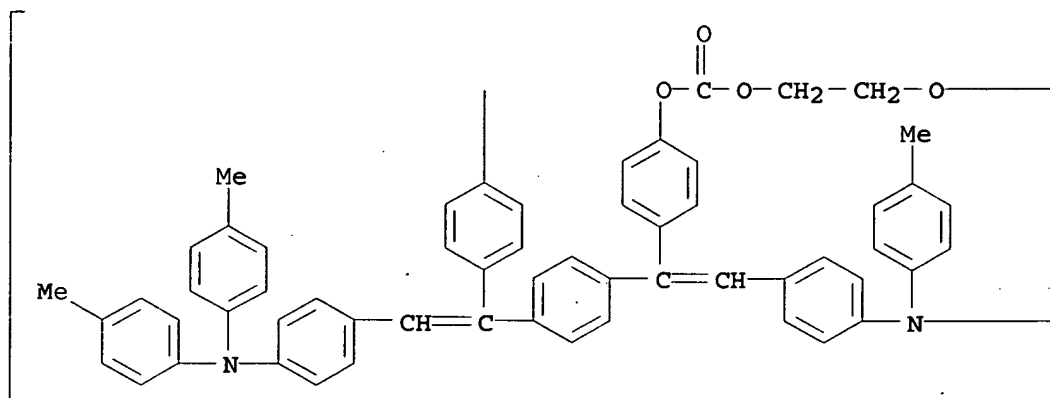
AB The device has a **light-emitting** layer comprising a mono or laminated organic compound thin film layer between an anode and a cathode, in which the layer contains an aromatic polycarbonate resin comprising a repeating unit I [Ar1, 2, 5, 6 = aromatic hydrocarbon, heterocyclic; Ar3, 4 = divalent aromatic hydrocarbon; n = 5-5000 integer; X = divalent aliphatic group, divalent alicyclic group, Q1; R1, 2 = alkyl, aromatic hydrocarbon, halo; 1, m = 0-4 integers; Y = single bond, C1-12 alkylene, O, S, SO, SO2, CO, CO2ZOCO; Z = divalent aliphatic hydrocarbon group, (CH2)a(Si(R3)(R4)O)bSi(R3)(R4)(CH2)a; R3, 4 = alkyl, aromatic hydrocarbon; a = 0-20 integer; b = 1-2000 integer]. The device shows excellent heat resistance, mech. strength, and durability.

IT 195872-69-6 195872-78-7 195872-84-5
(organic thin film **electroluminescent** device containing polycarbonate resin)

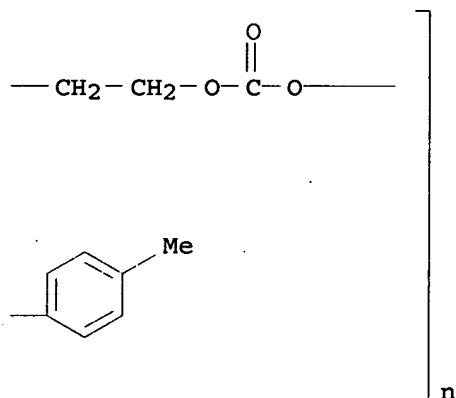
RN 195872-69-6 HCAPLUS

CN Poly[oxycarbonyloxy-1,2-ethanediylloxy-1,2-ethanediylloxycarbonyloxy-1,4-phenylene[[4-[bis(4-methylphenyl)amino]phenyl]ethenylidene]-1,4-phenylene[[4-[bis(4-methylphenyl)amino]phenyl]ethenylidene]-1,4-phenylene] (9CI) (CA INDEX NAME)

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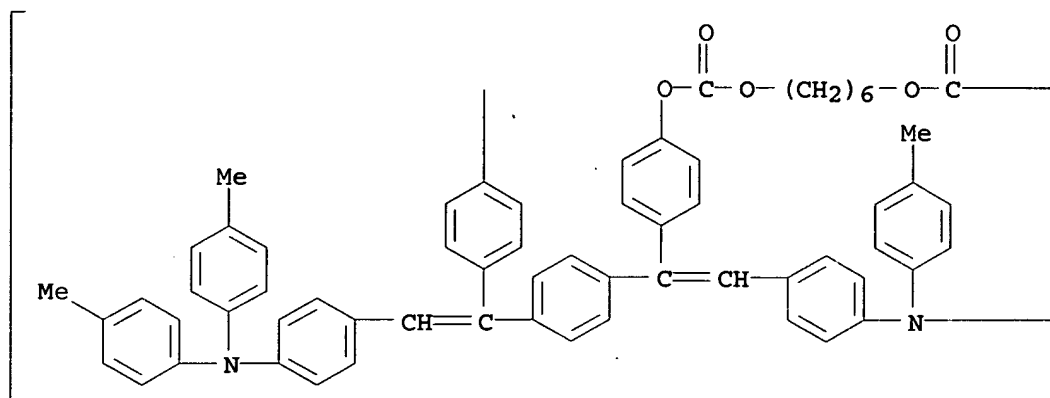
PAGE 1-B



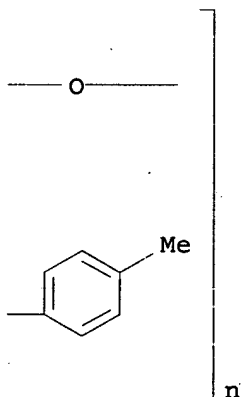
RN 195872-78-7 HCAPLUS

CN Poly[oxy-carbonyloxy-1,6-hexanediyl-oxy-carbonyloxy-1,4-phenylene[[4-bis(4-methylphenyl)amino]phenyl]ethynylidene]-1,4-phenylene[[4-bis(4-methylphenyl)amino]phenyl]ethynylidene]-1,4-phenylene]
(9CI) (CA INDEX NAME)

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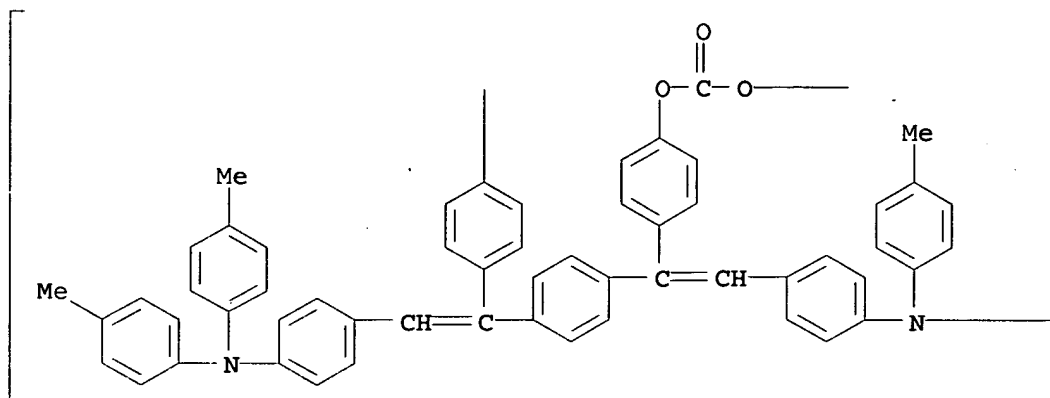
PAGE 1-B



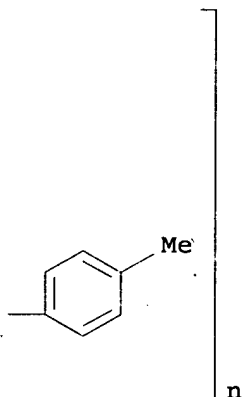
RN 195872-84-5 HCAPLUS

CN Poly[oxycarbonyloxy-1,4-phenylene[[4-[bis(4-methylphenyl)amino]phenyl]ethenylidene]-1,4-phenylene[[4-[bis(4-methylphenyl)amino]phenyl]ethenylidene]-1,4-phenylene] (9CI) (CA INDEX NAME)

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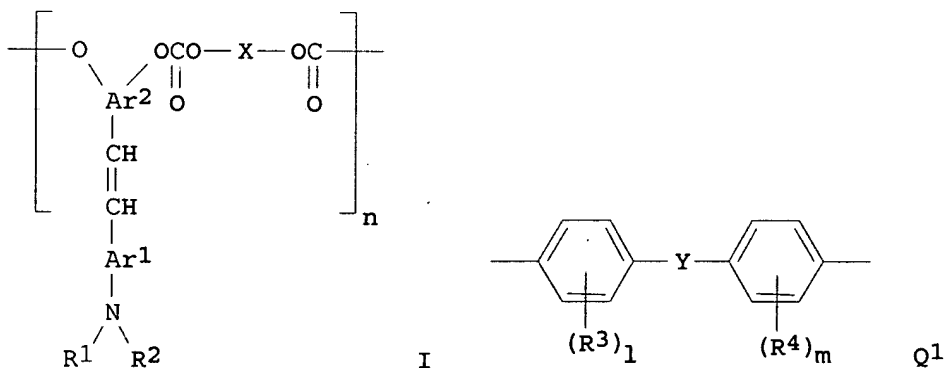
IC ICM H05B033-14
ICS C08G064-18; C08L069-00; C09K011-06; H05B033-22
CC 73-11 (Optical, Electron, and Mass Spectroscopy and
Other Related Properties)
Section cross-reference(s): 38
ST **electroluminescent** device polycarbonate **light**
emitting layer
IT Polycarbonates, uses
(aromatic; organic thin film **electroluminescent** device
containing polycarbonate resin)
IT **Electroluminescent** devices
(organic thin film **electroluminescent** device containing
polycarbonate resin)
IT 195872-66-3 195872-69-6 195872-76-5
195872-78-7 195872-81-2 195872-84-5
195872-86-7, Bisphenol A-N',N',N'',N''-tetra[4-methylphenyl]-1,4-
bis[α-[4-hydroxyphenyl]styryl]benzene-4',4''-diamine-
triphosgene copolymer 217634-69-0
(organic thin film **electroluminescent** device containing
polycarbonate resin)

L19 ANSWER 23 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1999:78778 HCAPLUS
 DOCUMENT NUMBER: 130:175064
 TITLE: Organic thin film **electroluminescent**
 device containing polycarbonate resin
 INVENTOR(S): Nagai, Kazukiyo; Tanaka, Chiaki; Adachi,
 Chihaya
 PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 19 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11031582	A2	19990202	JP 1997-193182	1997 0703
JP 3576355	B2	20041013	JP 1997-193182	1997 0703

PRIORITY APPLN. INFO.: JP 1997-193182

GI



AB The device has a **light-emitting** layer comprising a mono or laminated organic compound thin film layer between an anode and a cathode, in which the layer contains an aromatic polycarbonate resin comprising a repeating unit I [R1, 2, 5, 6 = alkyl, aromatic hydrocarbon, heterocyclic; Ar1 = divalent aromatic hydrocarbon; Ar2 = trivalent aromatic hydrocarbon; n = 2-5000 integers; X = divalent aliphatic group, divalent alicyclic group, and Q1; R3, 4 = alkyl, aromatic hydrocarbon, halo; l, m = 0-4 integer; Y = single bond, C1-12 alkylene, O, S, SO, SO2, CO, CO2ZOCO; Z = divalent aliphatic group, (CH2)a(Si(R5)(R6)O)bSi(R5)(R6)(CH2)a; a = 0-20 integer; b = 1-2000 integer]. The device shows excellent heat resistance, mech. strength, and durability.

IT 201746-26-1

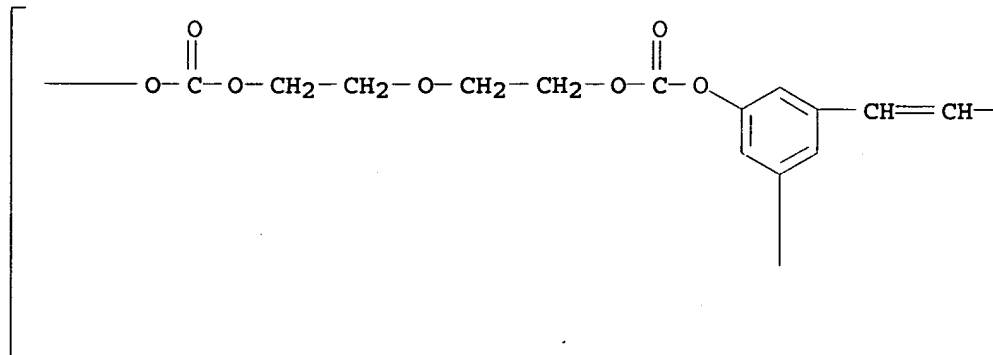
(organic thin film **electroluminescent** device containing

aromatic polycarbonate-based light-emitting layer)

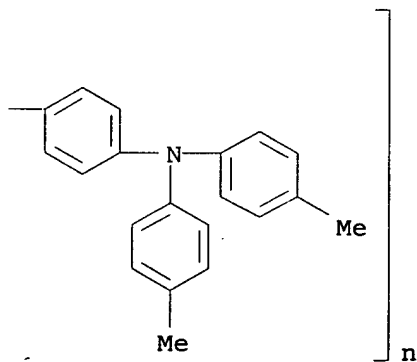
RN 201746-26-1 HCAPLUS

CN Poly[oxy-carbonyloxy-1,2-ethanedioxy-1,2-ethanedioxy-carbonyloxy[5-[2-[4-[bis(4-methylphenyl)amino]phenyl]ethenyl]-1,3-phenylene]] (9CI) (CA INDEX NAME)

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IC ICM H05B033-14

ICS C08L069-00; C08G064-18

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 38

ST electroluminescent device polycarbonate light emitting layer

IT Polycarbonates, uses

(aromatic; organic thin film electroluminescent device containing aromatic polycarbonate-based light-emitting layer)

IT Electroluminescent devices

(organic thin film electroluminescent device containing aromatic polycarbonate-based light-emitting

layer)
 IT 201746-24-9 201746-25-0 201746-26-1
 (organic thin film **electroluminescent** device containing
 aromatic polycarbonate-based **light-emitting**
 layer)

L19 ANSWER 24 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:74571 HCAPLUS

DOCUMENT NUMBER: 130:175039

TITLE: Organic thin film **electroluminescent**
 device

INVENTOR(S): Nagai, Kazukiyo; Katayama, Akira; Atachi,
 Chihaya

PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

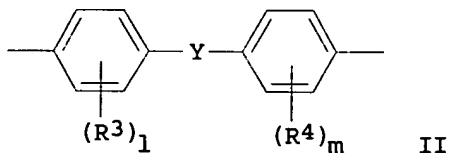
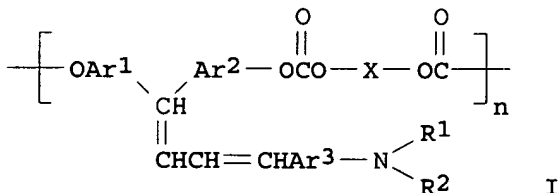
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
JP 11026162	A2	19990129	JP 1997-193187	1997 0703
PRIORITY APPLN. INFO.:			JP 1997-193187	1997 0703

GI



AB The invention relates to an organic thin film
electroluminescent device comprising an aromatic
 polycarbonate represented by I [R¹-2 = acyl, alkyl aromatic
 hydrocarbon, and heterocyclic groups; Ar¹-3 = divalent aromatic
 hydrocarbon group; n = 5-5000 integer; X = divalent aliphatic group
 or II [R³-4 = alkyl, aromatic hydrocarbon, and halo; l and m = 0-4
 integer; Y = single bond, C1-12 alkylene, O, S, SO, SO₂, CO,
 COOZOCO [Z = divalent aliphatic group], and
 (CH₂)_a(Si(R₅)(R₆)O)_bSi(R₅)(R₆)(CH₂)_a [R₅-6 = alkyl or aromatic

hydrocarbon; a = 0-20 integer; b = 1-2000 integer]]].

IT 188411-77-0P 189451-34-1P 189451-35-2P

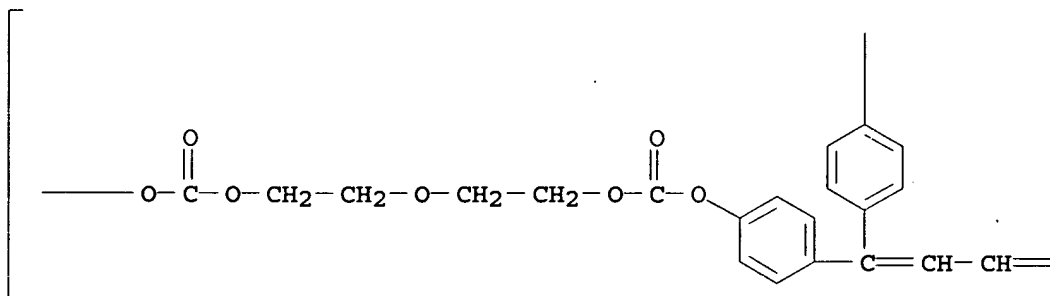
189451-39-6P

(organic thin film electroluminescent device)

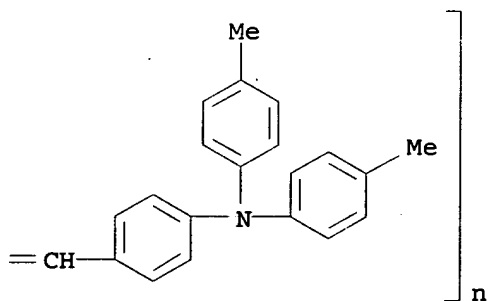
RN 188411-77-0 HCAPLUS

CN Poly[oxy carbonyloxy-1,2-ethanediyl oxy-1,2-ethanediyl oxy carbonyloxy-1,4-phenylene [4-[4-[bis(4-methylphenyl)amino]phenyl]-1,3-butadienylidene]-1,4-phenylene] (9CI) (CA INDEX NAME)

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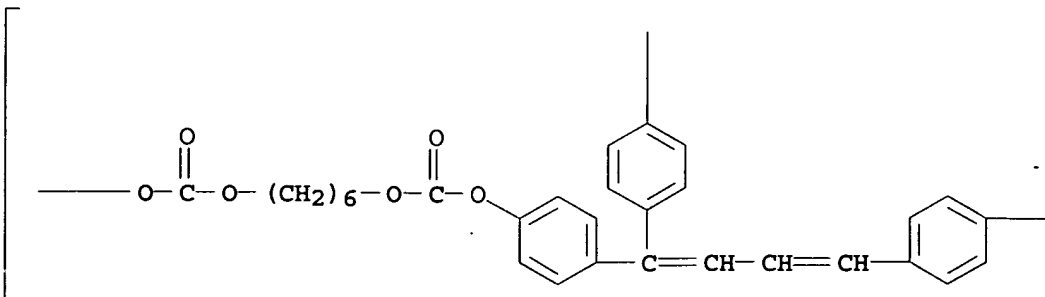
PAGE 1-B



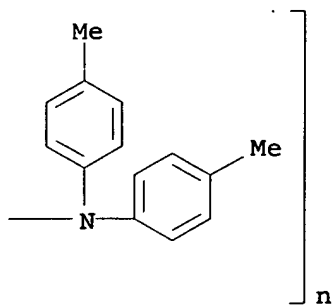
RN 189451-34-1 HCAPLUS

CN Poly[oxy carbonyloxy-1,6-hexanediyl oxy carbonyloxy-1,4-phenylene [4-[4-[bis(4-methylphenyl)amino]phenyl]-1,3-butadienylidene]-1,4-phenylene] (9CI) (CA INDEX NAME)

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RN 189451-35-2 HCAPLUS

CN Poly[oxycarbonyloxy-1,4-phenylene [4-[4-[bis(4-methylphenyl)amino]phenyl]-1,3-butadienylidene]-1,4-phenyleneoxycarbonyloxy-1,4-phenylene(1-methylethylidene)-1,4-phenylene] (9CI) (CA INDEX NAME)

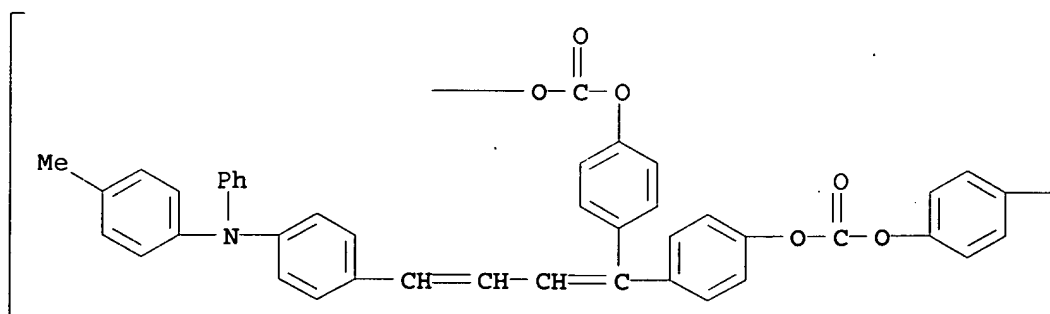
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT
*

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT
*

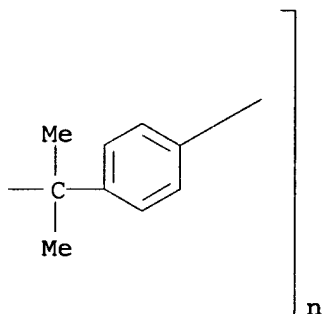
RN 189451-39-6 HCAPLUS

CN Poly[oxycarbonyloxy-1,4-phenylene [4-[4-[(4-methylphenyl)phenylamino]phenyl]-1,3-butadienylidene]-1,4-phenyleneoxycarbonyloxy-1,4-phenylene(1-methylethylidene)-1,4-phenylene] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM H05B033-14
 ICS C08L069-00; C09K011-06; H05B033-22; C08G064-16
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and
 Other Related Properties)
 ST org thin film **electroluminescent** device polycarbonate
 IT **Electroluminescent** devices
 (organic thin film **electroluminescent** device)
 IT Polycarbonates, uses
 (organic thin film **electroluminescent** device)
 IT Polyethers, uses
 Polyethers, uses
 (polycarbonate-; organic thin film **electroluminescent**
 device)
 IT Polycarbonates, uses
 Polycarbonates, uses
 (polyether-; organic thin film **electroluminescent**
 device)
 IT 188411-76-9P 188411-77-0P 189451-34-1P
 189451-35-2P 189451-39-6P 196314-98-4P
 196314-99-5P 196315-01-2P 196315-02-3P 196315-03-4P
 196315-04-5P 196315-06-7P
 (organic thin film **electroluminescent** device)

L19 ANSWER 25 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1999:74570 HCAPLUS
 DOCUMENT NUMBER: 130:175038
 TITLE: Organic thin film **electroluminescent**
 device
 INVENTOR(S): Nagai, Kazukiyo; Adachi, Chihaya
 PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 21 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

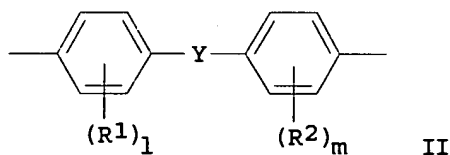
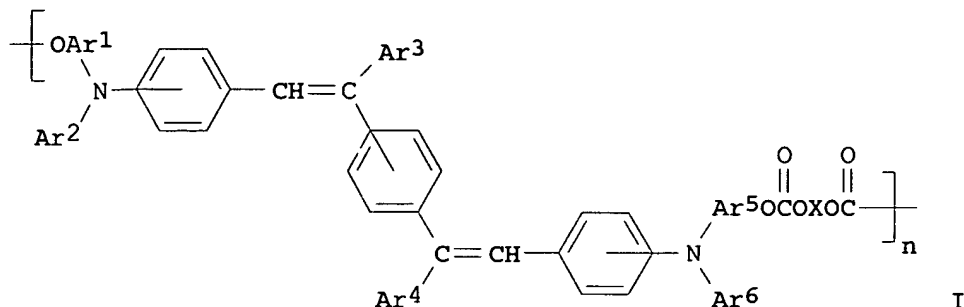
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11026161	A2	19990129	JP 1997-193185	1997 0703

PRIORITY APPLN. INFO.:

JP 1997-193185

1997
0703

GI



AB The invention relates to an organic thin film **electroluminescent** device comprising an aromatic polycarbonate represented by I [Ar2, Ar3, Ar4, and Ar6 = aromatic hydrocarbon, and heterocyclic groups; Ar1, and Ar5 = divalent aromatic hydrocarbon group; n = 5-5000 integer; X = divalent aliphatic group or II [R1-2 = alkyl, aromatic hydrocarbon, and halo; l and m = 0-4 integer; Y = single bond, C1-12 alkylene, O, S, SO, SO2, CO, COOZOCO [Z = divalent aliphatic group], and (CH2)a(Si(R3)(R4)O)bSi(R3)(R4)(CH2)a [R3-4 = alkyl or aromatic hydrocarbon; a = 0-20 integer; b = 1-2000 integer]]].

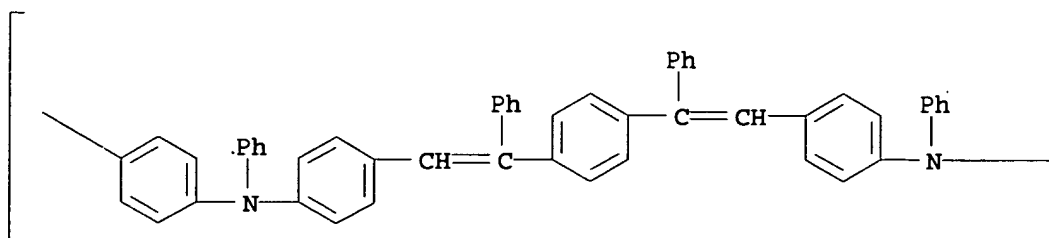
IT 195512-34-6P 195512-37-9P 195512-39-1P
195512-43-7P 195512-47-1P 195512-50-6P
195512-59-5P 195512-62-0P

(Organic thin film **electroluminescent** device)

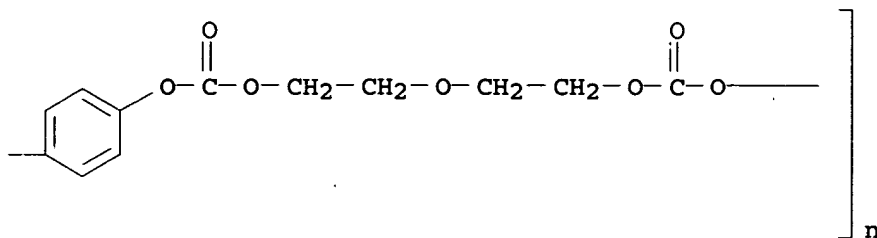
RN 195512-34-6 HCAPLUS

CN Poly[oxy-carbonyloxy-1,2-ethanedioxy-1,2-ethanedioxycarbonyloxy-1,4-phenylene(phenylimino)-1,4-phenylene(2-phenyl-1,2-ethenediyl)-1,4-phenylene(1-phenyl-1,2-ethenediyl)-1,4-phenylene(phenylimino)-1,4-phenylene] (9CI) (CA INDEX NAME)

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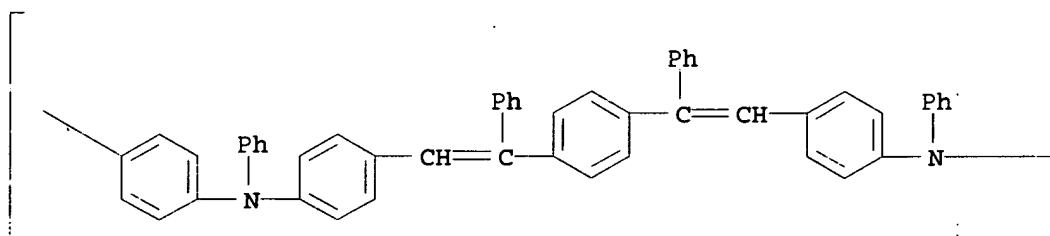
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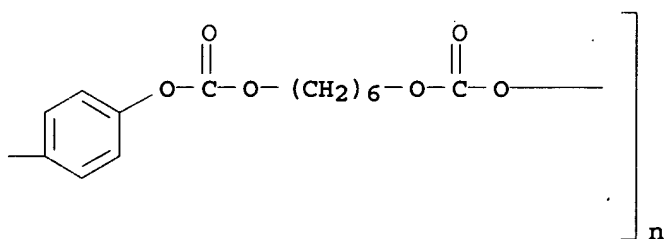
RN 195512-37-9 HCAPLUS

CN Poly[oxy carbonyloxy-1,6-hexanedioxy carbonyloxy-1,4-phenylene (phenylimino)-1,4-phenylene (2-phenyl-1,2-ethenediyl)-1,4-phenylene (1-phenyl-1,2-ethenediyl)-1,4-phenylene (phenylimino)-1,4-phenylene] (9CI) (CA INDEX NAME)

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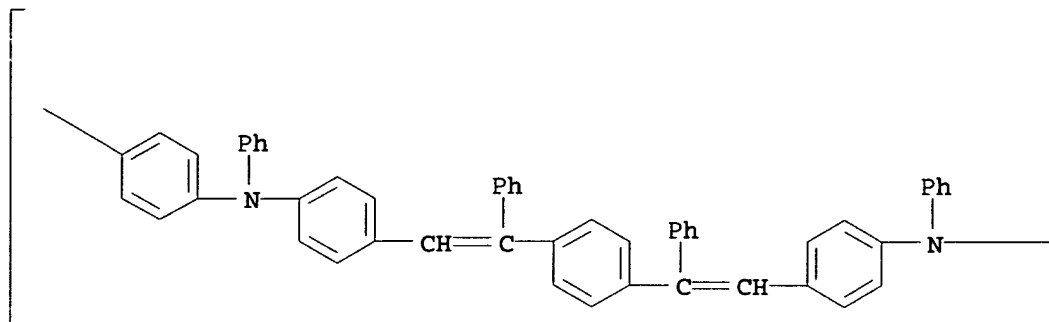
PAGE 1-B



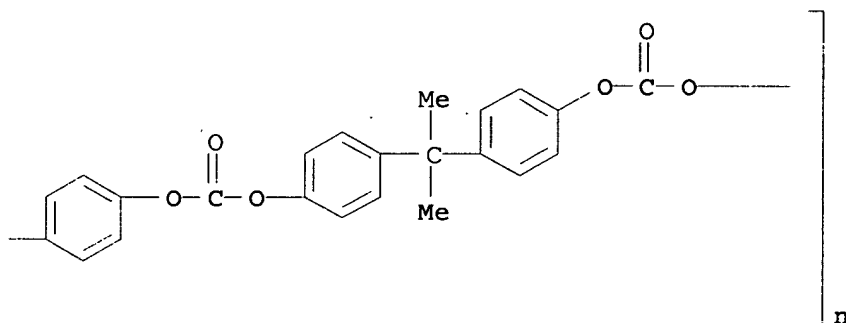
RN 195512-39-1 HCAPLUS

CN Poly[oxy carbonyloxy-1,4-phenylene (1-methylethylidene)-1,4-phenyleneoxy carbonyloxy-1,4-phenylene (phenylimino)-1,4-phenylene (2-phenyl-1,2-ethenediyl)-1,4-phenylene (1-phenyl-1,2-ethenediyl)-1,4-phenylene (phenylimino)-1,4-phenylene] (9CI) (CA INDEX NAME)

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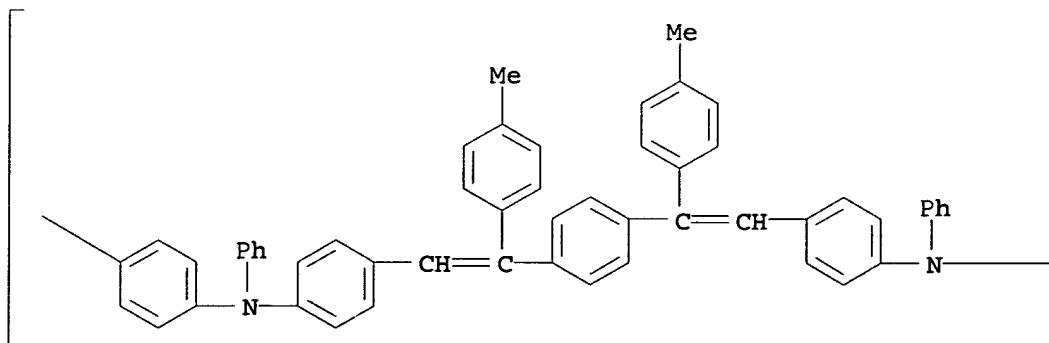


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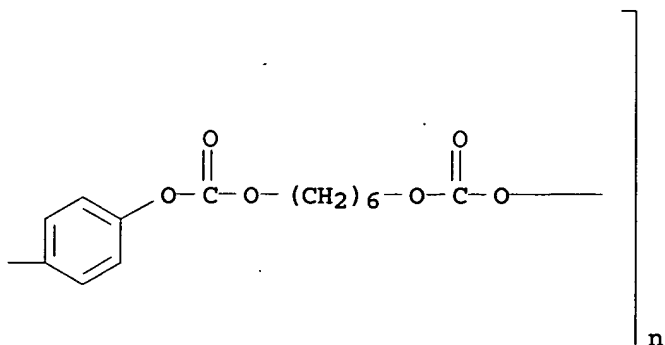


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 CN Poly[oxycarbonyloxy-1,6-hexanediylloxycarbonyloxy-1,4-phenylene(phenylimino)-1,4-phenylene[2-(4-methylphenyl)-1,2-ethenediyl]-1,4-phenylene[1-(4-methylphenyl)-1,2-ethenediyl]-1,4-phenylene(phenylimino)-1,4-phenylene] (9CI) (CA INDEX NAME)

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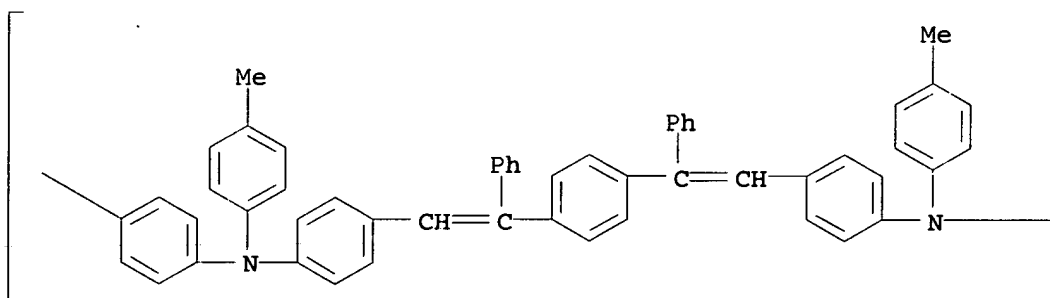
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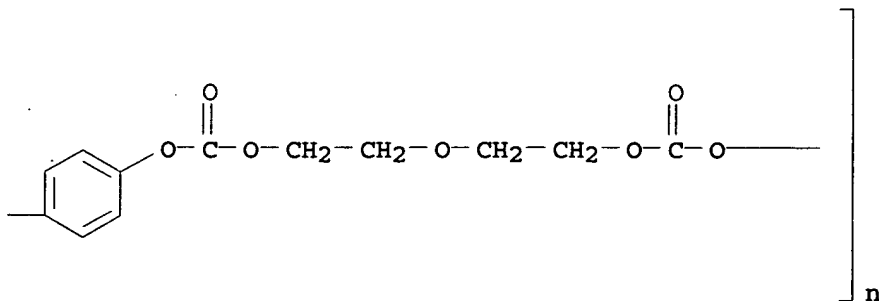
RN 195512-47-1 HCAPLUS

CN Poly[oxycarbonyloxy-1,2-ethanediyl-1,2-ethanediyl-oxycarbonyloxy-1,4-phenylene[(4-methylphenyl)imino]-1,4-phenylene(2-phenyl-1,2-ethenediyl)-1,4-phenylene(1-phenyl-1,2-ethenediyl)-1,4-phenylene[(4-methylphenyl)imino]-1,4-phenylene] (9CI) (CA INDEX NAME)

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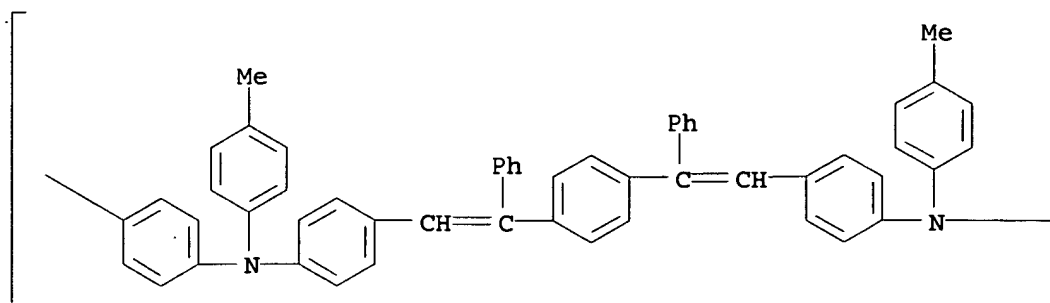
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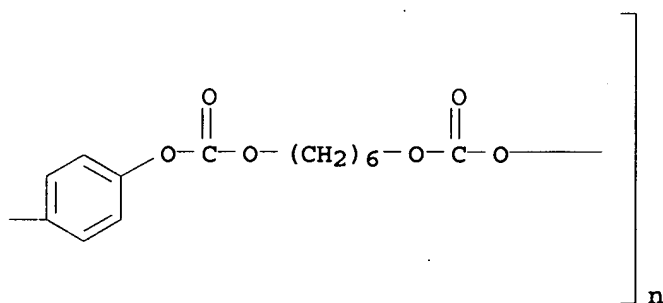
RN 195512-50-6 HCAPLUS

CN Poly[oxycarbonyloxy-1,6-hexanediyl-oxycarbonyloxy-1,4-phenylene[(4-methylphenyl)imino]-1,4-phenylene(2-phenyl-1,2-ethenediyl)-1,4-phenylene(1-phenyl-1,2-ethenediyl)-1,4-phenylene[(4-methylphenyl)imino]-1,4-phenylene] (9CI) (CA INDEX NAME)

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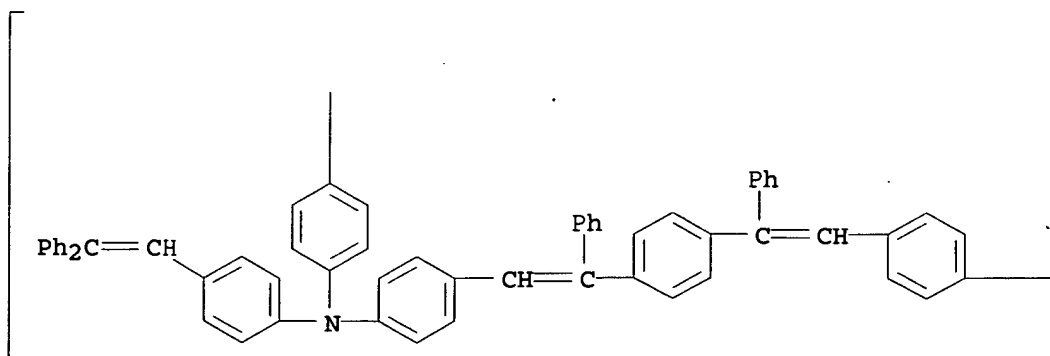
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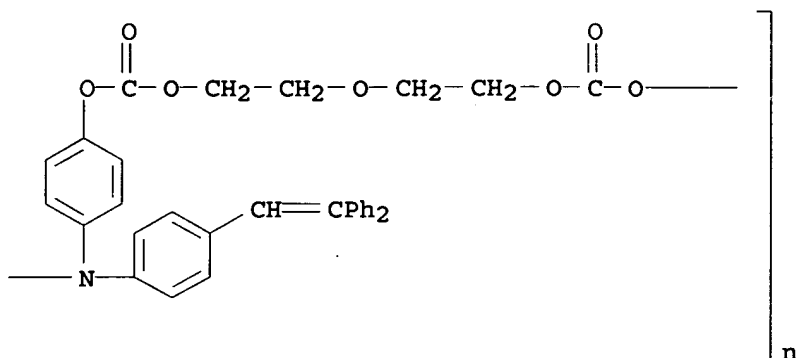
RN 195512-59-5 HCAPLUS

CN Poly[oxycarbonyloxy-1,2-ethanedioxy-1,2-ethanedioxycarbonyloxy-1,4-phenylene[[4-(2,2-diphenylethenyl)phenyl]imino]-1,4-phenylene(2-phenyl-1,2-ethenediyl)-1,4-phenylene(1-phenyl-1,2-ethenediyl)-1,4-phenylene[[4-(2,2-diphenylethenyl)phenyl]imino]-1,4-phenylene] (9CI) (CA INDEX NAME)

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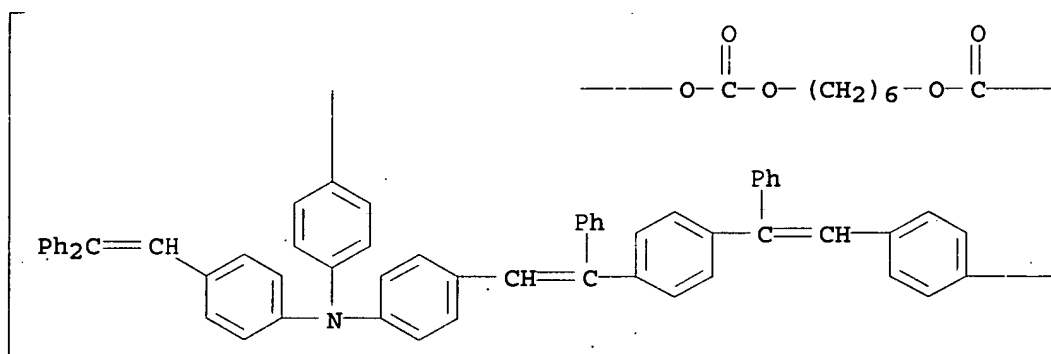
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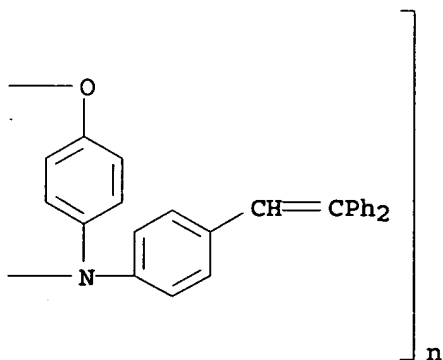
RN 195512-62-0 HCAPLUS

CN Poly[oxy carbonyloxy-1,6-hexanediyl oxy carbonyloxy-1,4-phenylene [[4-(2,2-diphenylethenyl)phenyl]imino]-1,4-phenylene (2-phenyl-1,2-ethenediyl)-1,4-phenylene (1-phenyl-1,2-ethenediyl)-1,4-phenylene [[4-(2,2-diphenylethenyl)phenyl]imino]-1,4-phenylene]
(9CI) (CA INDEX NAME)

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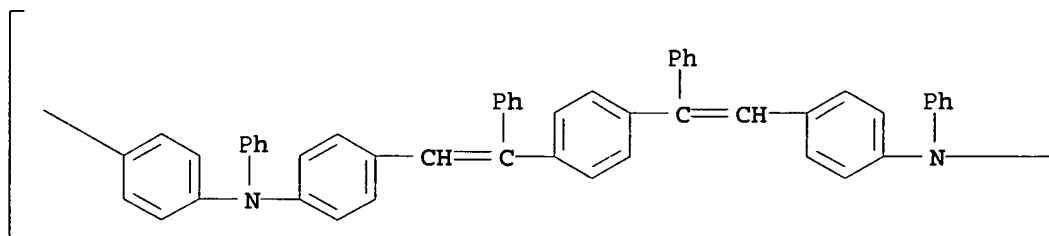


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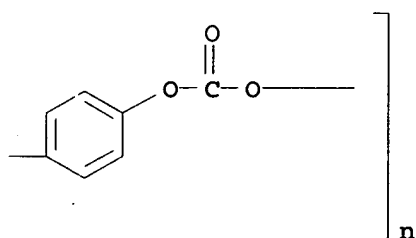


IT 195512-52-8P 195512-54-0P 195512-64-2P
 (organic thin film electroluminescent device)
 RN 195512-52-8 HCAPLUS
 CN Poly[oxy carbonyloxy-1,4-phenylene(phenylimino)-1,4-phenylene(2-phenyl-1,2-ethenediyl)-1,4-phenylene(1-phenyl-1,2-ethenediyl)-1,4-phenylene(phenylimino)-1,4-phenylene] (9CI) (CA INDEX NAME)

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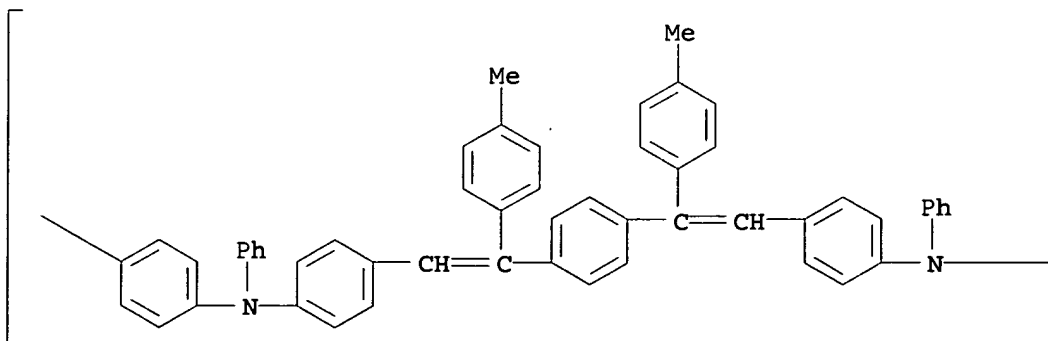


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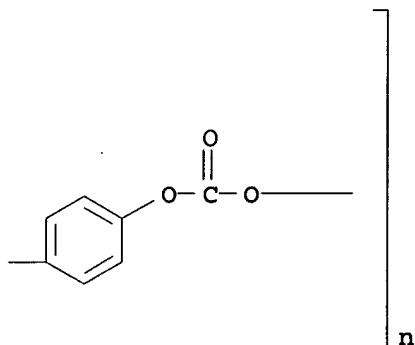


RN 195512-54-0 HCAPLUS
 CN Poly[oxy carbonyloxy-1,4-phenylene(phenylimino)-1,4-phenylene[2-(4-methylphenyl)-1,2-ethenediyl]-1,4-phenylene[1-(4-methylphenyl)-1,2-ethenediyl]-1,4-phenylene(phenylimino)-1,4-phenylene] (9CI) (CA INDEX NAME)

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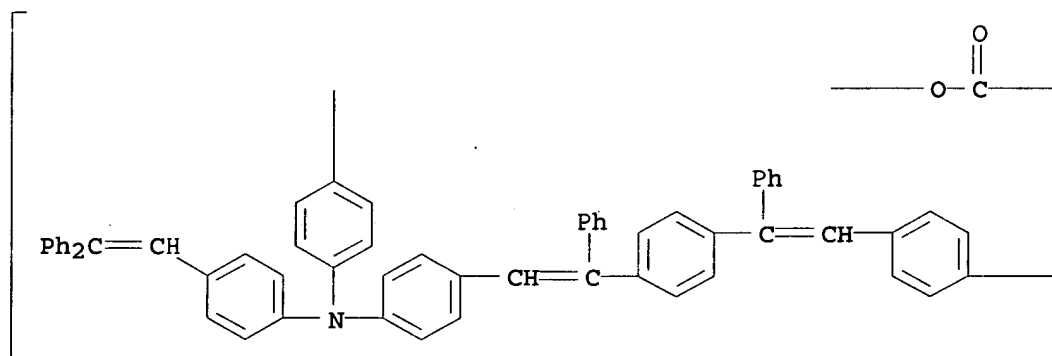
PAGE 1-B



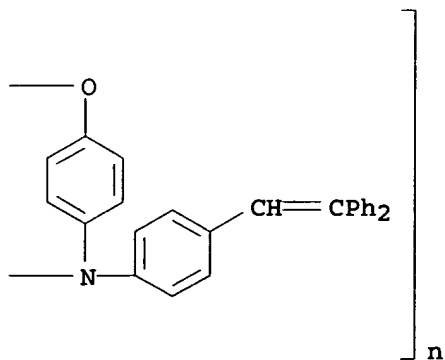
RN 195512-64-2 HCAPLUS

CN Poly[oxycarbonyloxy-1,4-phenylene{[4-(2,2-diphenylethenyl)phenyl]imino}-1,4-phenylene(2-phenyl-1,2-ethenediyl)-1,4-phenylene(1-phenyl-1,2-ethenediyl)-1,4-phenylene{[4-(2,2-diphenylethenyl)phenyl]imino}-1,4-phenylene]
(9CI) (CA INDEX NAME)

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IC ICM H05B033-14
ICS C09K011-06
CC 73-11 (Optical, Electron, and Mass Spectroscopy and
Other Related Properties)
ST org thin film **electroluminescent** device arom
polycarbonate
IT Polycarbonates, uses
(aromatic; organic thin film **electroluminescent** device)
IT **Electroluminescent** devices
(organic thin film **electroluminescent** device)
IT Polyamines
(organic thin film **electroluminescent** device)
IT Polyethers, uses
Polyethers, uses
(polycarbonate-; organic thin film **electroluminescent**
device)
IT Polycarbonates, uses
Polycarbonates, uses
(polyether-; organic thin film **electroluminescent**
device)
IT 195512-33-5P 195512-34-6P 195512-35-7P 195512-36-8P
195512-37-9P 195512-38-0P 195512-39-1P
195512-41-5P 195512-43-7P 195512-46-0P
195512-47-1P 195512-48-2P 195512-49-3P
195512-50-6P 195512-58-4P 195512-59-5P
195512-60-8P 195512-61-9P 195512-62-0P
(Organic thin film **electroluminescent** device)
IT 195512-51-7P 195512-52-8P 195512-53-9P
195512-54-0P 195512-63-1P 195512-64-2P
195512-65-3P 195512-66-4P 198630-03-4P
(organic thin film **electroluminescent** device)

L19 ANSWER 26 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1999:65457 HCAPLUS
DOCUMENT NUMBER: 130:160368
TITLE: Organic thin-film **electroluminescent**
device containing aromatic polycarbonate
INVENTOR(S): Nagai, Kazukiyo; Suzuki, Tetsuo; Adachi,
Chihaya
PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

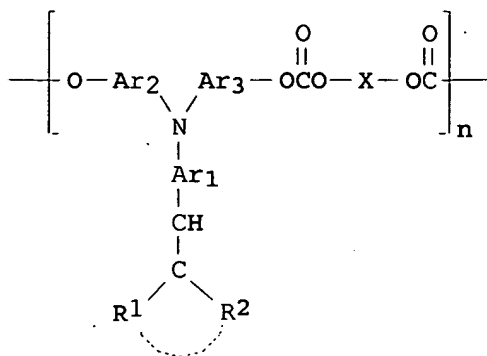
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 11021551	A2	19990126	JP 1997-193186	

1997
0703

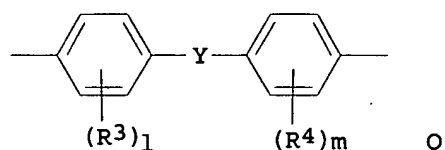
PRIORITY APPLN. INFO.: JP 1997-193186

1997
0703

GI



I



Q

AB The device has ≥ 1 organic compound thin film containing an aromatic polycarbonate having a structural repeating unit I [R1, R2 = H, (substituted) aromatic hydrocarbyl or heterocyclic group; R1 and R2 may form ring; Ar1-Ar3 = divalent (substituted) aromatic hydrocarbyl or heterocyclic group; n = 5-5000; X = divalent aliphatic or alicyclic group, Q; R3, R4 = (substituted) alkyl or aromatic hydrocarbyl, halo; l, m = 0-4; Y = single bond, C1-12 alkylene; O, S, SO, SO2, CO, CO2ZOCO, (CH2)a(SiR5R6O)bSiR5R6(CH2)a; Z = divalent aliphatic hydrocarbyl; R5, R6 = (substituted) alkyl or aromatic hydrocarbyl; a = 0-20; b = 1-20000]. A **light-emitting** layer or a hole-injecting-transporting layer may contain the polycarbonate. The polycarbonate shows good charge-transporting property and high mech. strength and heat resistance.

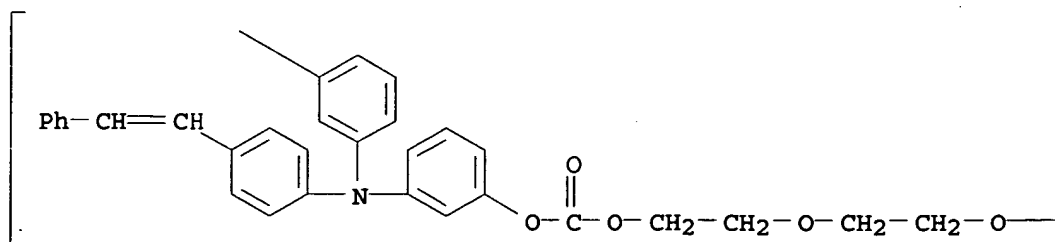
IT 192566-24-8P 192566-52-2P

(durable organic thin-film **electroluminescent** device containing triarylamine-type aromatic polycarbonate)

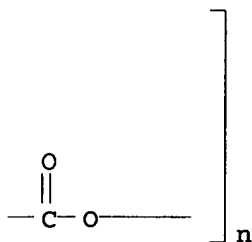
RN 192566-24-8 HCAPLUS

CN Poly[oxycarbonyloxy-1,2-ethanediylloxy-1,2-ethanediylloxycarbonyloxy-1,3-phenylene[[4-(2-phenylethenyl)phenyl]imino]-1,3-phenylene] (9CI) (CA INDEX NAME)

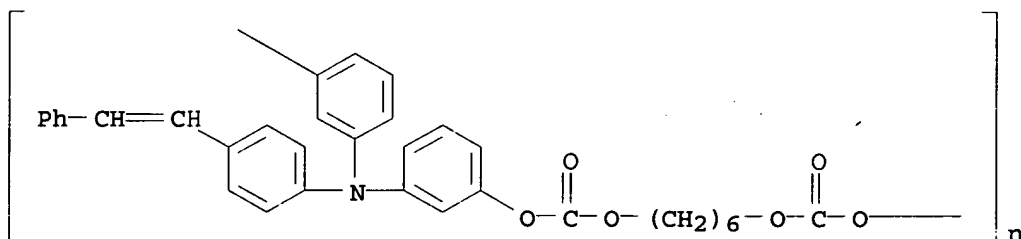
PAGE 1-A



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RN 192566-52-2 HCAPLUS
 CN Poly[oxy-carbonyloxy-1,6-hexanediyl-oxy-carbonyloxy-1,3-phenylene[[4-(2-phenylethenyl)phenyl]imino]-1,3-phenylene] (9CI) (CA INDEX NAME)



IC ICM C09K011-06
 ICS C08L069-00; H05B033-14; C08G064-16
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 38
 ST **electroluminescent** device arylamine polycarbonate charge transport; mech strength triarylamine polycarbonate **electroluminescent** device; heat resistance triarylamine polycarbonate **electroluminescent** device
 IT Polycarbonates, uses
 Polycarbonates, uses
 (polyamine-, aromatic; durable organic thin-film **electroluminescent** device containing triarylamine-type aromatic polycarbonate)
 IT Polyamines
 Polyamines
 (polycarbonate-, aromatic; durable organic thin-film **electroluminescent** device containing triarylamine-type aromatic polycarbonate)
 IT **Electroluminescent** devices
 (thin-film; durable organic thin-film **electroluminescent** device containing triarylamine-type aromatic polycarbonate)
 IT 192566-23-7P, 4-[Bis(3-hydroxyphenyl)amino]stilbene-diethylene glycol bischloroformate copolymer 192566-24-8P
 192566-25-9P 192566-52-2P 192566-53-3P
 (durable organic thin-film **electroluminescent** device containing triarylamine-type aromatic polycarbonate)

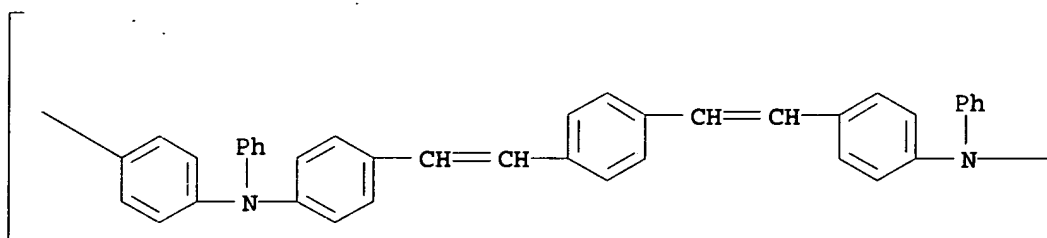
L19 ANSWER 27 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:811529 HCAPLUS
 DOCUMENT NUMBER: 130:102663
 TITLE: Organic thin film electroluminescent device
 INVENTOR(S): Nagai, Kazukiyo; Shimada, Tomoyuki; Anzai, Mitsutoshi; Imai, Akihiro; Morooka, Katsuhiko; Adachi, Chihaya
 PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan; Hodogaya Chemical Co., Ltd.
 SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

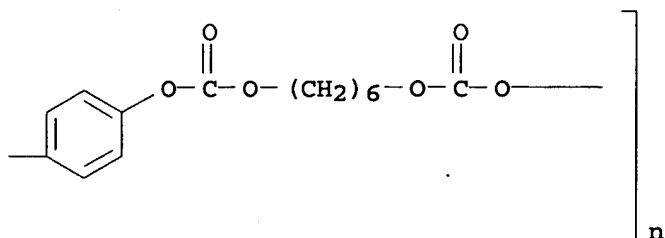
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10335065	A2	19981218	JP 1997-140036	1997 0529
PRIORITY APPLN. INFO.:			JP 1997-140036	1997 0529

AB An organic thin film electroluminescent device comprises organic layers sandwiched between an anode and a cathode, wherein one of the organic thin layers contains aromatic polycarbonate resin represented by a unit -OAr1N(Ar2)Ar3YAr4YAr5N(Ar7)Ar6OCO- [Ar1, Ar3, Ar4-6 = arylene; Ar2, Ar7 = aryl; and Y = ethylene or vinylene].
 IT 191926-60-0 191926-61-1 191926-62-2
 191926-63-3 191926-64-4 191926-65-5
 (electroluminescent material used in organic thin film electroluminescent device)
 RN 191926-60-0 HCAPLUS
 CN Poly[oxy carbonyloxy-1,6-hexanediyl oxy carbonyloxy-1,4-phenylene(phenylimino)-1,4-phenylene-1,2-ethenediyl-1,4-phenylene-1,2-ethenediyl-1,4-phenylene(phenylimino)-1,4-phenylene] (9CI)
 (CA INDEX NAME)

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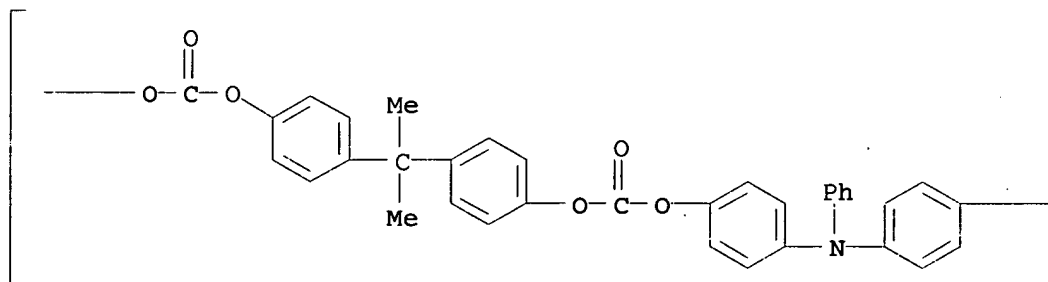
PAGE 1-B



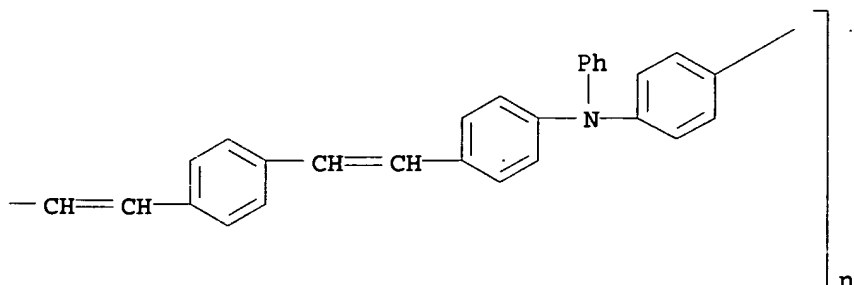
RN 191926-61-1 HCAPLUS

CN Poly[oxycarbonyloxy-1,4-phenylene(1-methylethylidene)-1,4-phenyleneoxycarbonyloxy-1,4-phenylene(phenylimino)-1,4-phenylene-1,2-ethenediyl-1,4-phenylene-1,2-ethenediyl-1,4-phenylene(phenylimino)-1,4-phenylene] (9CI) (CA INDEX NAME)

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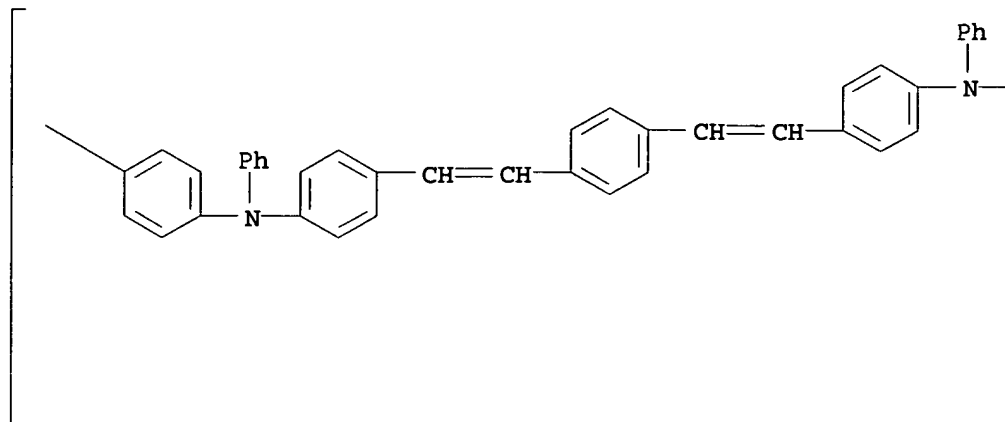
PAGE 1-B



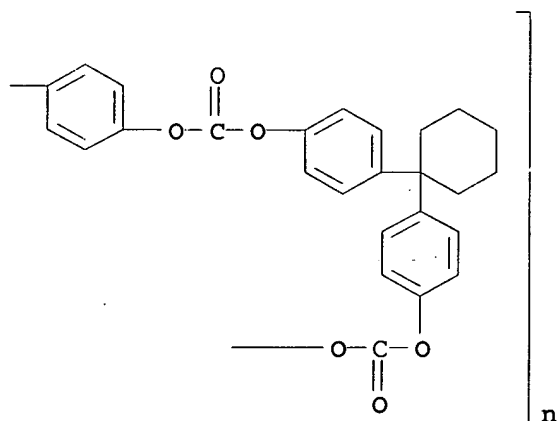
RN 191926-62-2 HCAPLUS

CN Poly[oxycarbonyloxy-1,4-phenylenecyclohexylidene-1,4-phenyleneoxycarbonyloxy-1,4-phenylene(phenylimino)-1,4-phenylene-1,2-ethenediyl-1,4-phenylene-1,2-ethenediyl-1,4-phenylene(phenylimino)-1,4-phenylene] (9CI) (CA INDEX NAME)

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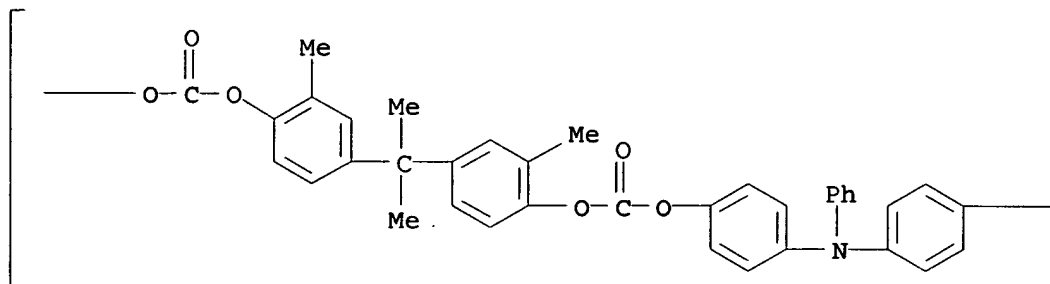


PAGE 1-B

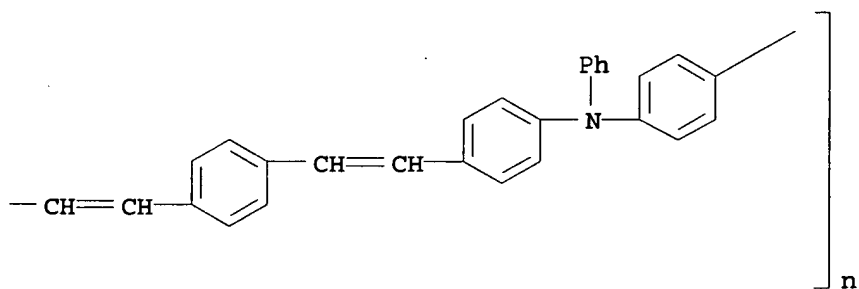


RN 191926-63-3 HCAPLUS
 CN Poly[oxycarbonyloxy(2-methyl-1,4-phenylene)(1-methylethylidene)(3-methyl-1,4-phenylene)oxycarbonyloxy-1,4-phenylene(phenylimino)-1,4-phenylene-1,2-ethenediyl-1,4-phenylene-1,2-ethenediyl-1,4-phenylene(phenylimino)-1,4-phenylene] (9CI) (CA INDEX NAME)

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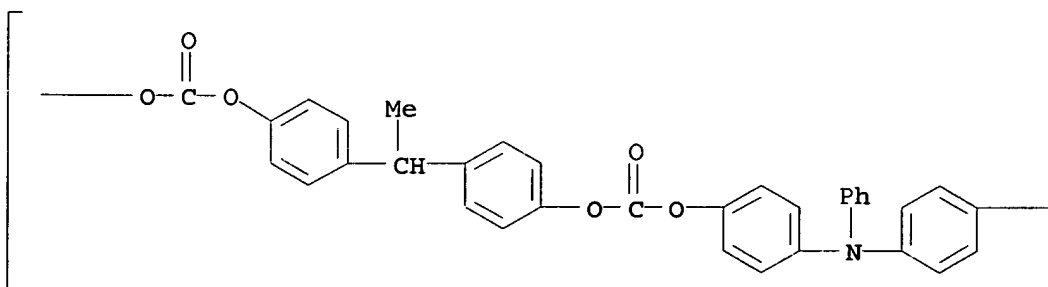


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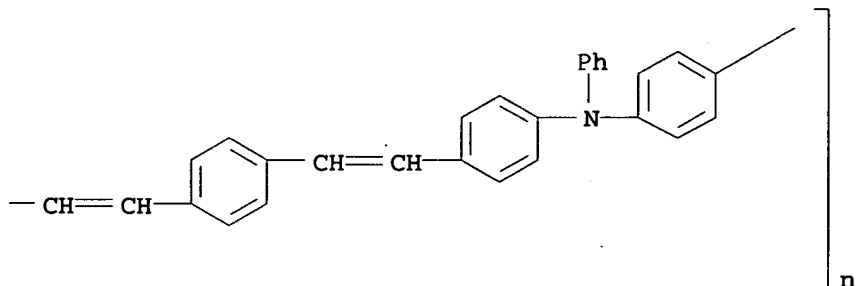


RN 191926-64-4 HCAPLUS
 CN Poly[oxy carbonyloxy-1,4-phenyleneethylidene-1,4-phenyleneoxy carbonyloxy-1,4-phenylene(phenylimino)-1,4-phenylene-1,2-ethenediyl-1,4-phenylene-1,2-ethenediyl-1,4-phenylene(phenylimino)-1,4-phenylene] (9CI) (CA INDEX NAME)

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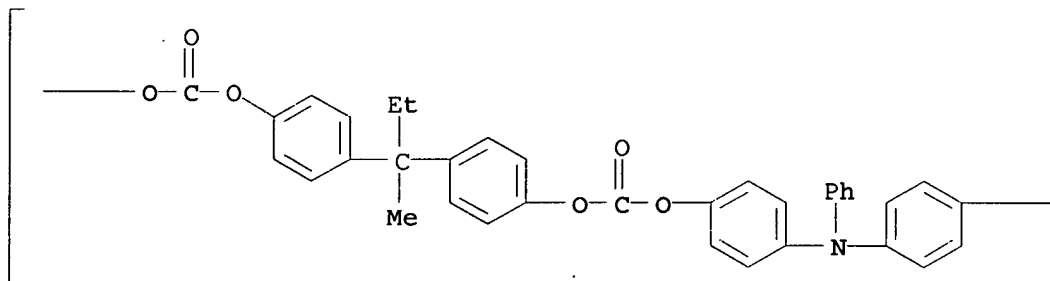
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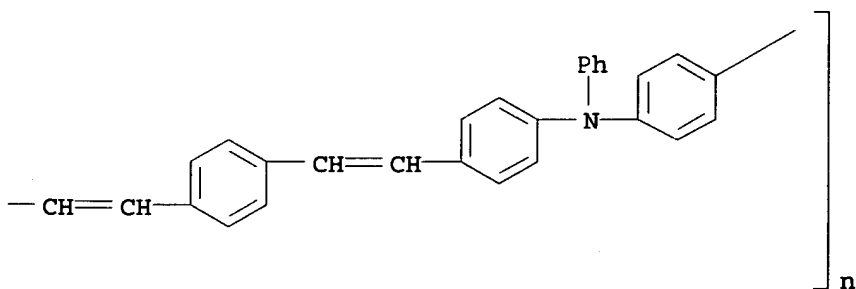
RN 191926-65-5 HCAPLUS

CN Poly[oxy carbonyloxy-1,4-phenylene (1-methylpropylidene)-1,4-phenyleneoxy carbonyloxy-1,4-phenylene (phenylimino)-1,4-phenylene-1,2-ethenediyl-1,4-phenylene-1,2-ethenediyl-1,4-phenylene (phenylimino)-1,4-phenylene] (9CI) (CA INDEX NAME)

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PAGE 1-B



IC ICM H05B033-14

ICS C09K011-06

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 38

ST org thin film electroluminescent device arom polycarbonate

IT Polycarbonates, uses

(aromatic; electroluminescent layer used in organic thin

film electroluminescent device)
 IT **Electroluminescent devices**
 (thin-film, organic; organic thin film electroluminescent device)
 IT 189245-16-7 190383-42-7 190383-44-9 190383-46-1
 190383-48-3 190383-49-4 190383-50-7 190383-51-8
 190383-52-9 191926-49-5 191926-60-0
 191926-61-1 191926-62-2 191926-63-3
 191926-64-4 191926-65-5 219138-76-8
 219138-79-1 219138-81-5 219138-83-7 219138-84-8
 219138-86-0
 (electroluminescent material used in organic thin film electroluminescent device)

L19 ANSWER 28 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1996:623705 HCAPLUS

DOCUMENT NUMBER: 126:24291

TITLE: **Electroluminescence** from polyurethanes with emissive and charge-transporting chromophores and their blends

AUTHOR(S): Kim, Dong Uk; Tsutsui, Tetsuo

CORPORATE SOURCE: Grad. Sch. Eng. Sci., Kyushu Univ., Kasuga, 816, Japan

SOURCE: Journal of Applied Physics (1996), 80(8), 4785-4787

CODEN: JAPIAU; ISSN: 0021-8979

PUBLISHER: American Institute of Physics

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Polyurethanes with a diphenylamino-substituted 1,4-bisstyrylbenzene unit for an emissive and charge-transport chromophore were prepared Single-layer **electroluminescent (EL)** diodes were made of spin-coated polyurethane films. An In-Sn-oxide (ITO) anode and a Mg-Ag alloy cathode were used. The **EL** diode made of the polyurethane exhibited the maximum **luminance** of 35 cd/m² at 570 mA/cm² at applied voltage of 26 V. When cyano groups were attached to the 1,4-bisstyrylbenzene unit, the maximum **luminance** of 1000 cd/m² for 870 mA/cm² at voltage of 26 V was attained. The external quantum efficiency of the latter device is 0.035%. The emission peaks of these 2 devices were 505 and 590 nm. Two polyurethanes are mixed homogeneously and **EL** diodes were fabricated using blend films.

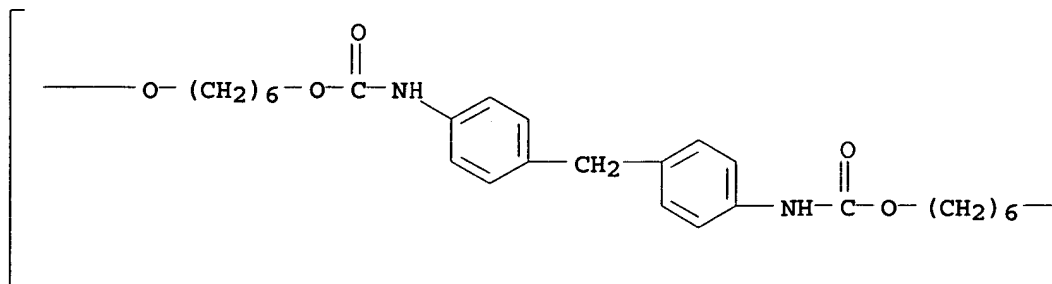
IT 184533-97-9 184533-98-0

(**electroluminescence** of emissive and charge-transporting chromophores and their blends of)

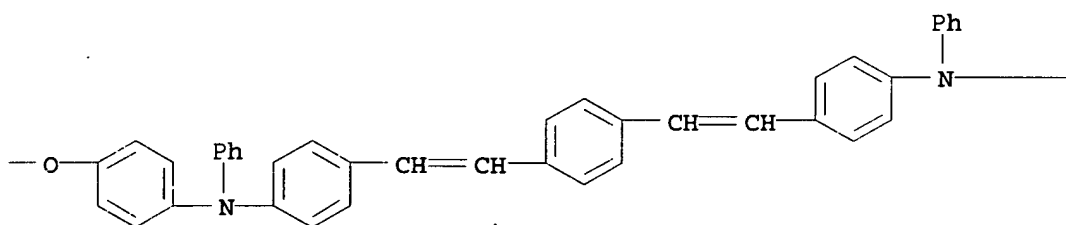
RN 184533-97-9 HCAPLUS

CN Poly[oxy-1,6-hexanediylloxycarbonylimino-1,4-phenylenemethylene-1,4-phenyleneiminocarbonyloxy-1,6-hexanediylloxy-1,4-phenylene(phenylimino)-1,4-phenylene-1,2-ethenediyl-1,4-phenylene-1,2-ethenediyl-1,4-phenylene(phenylimino)-1,4-phenylene] (9CI)
 (CA INDEX NAME)

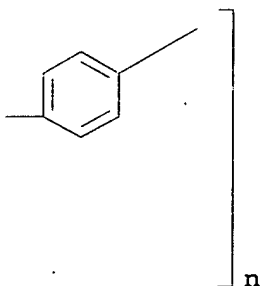
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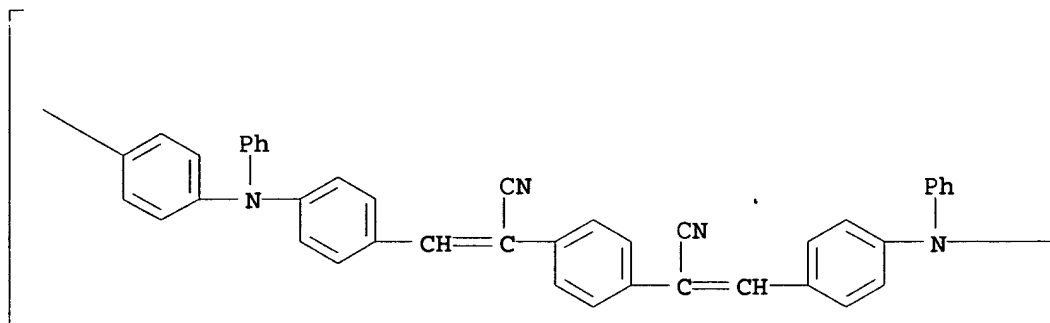


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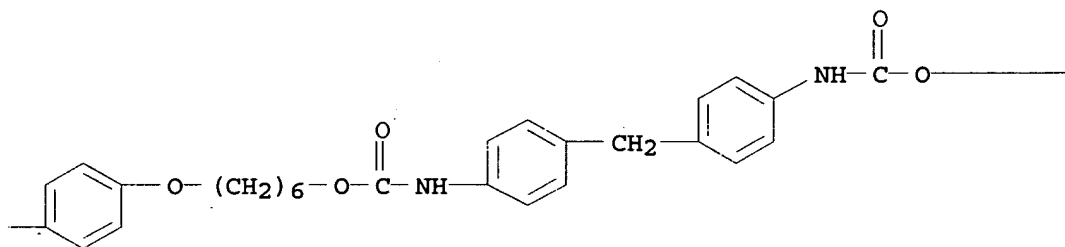


RN 184533-98-0 HCAPLUS
 CN Poly[oxy-1,6-hexanediylloxycarbonylimino-1,4-phenylenemethylene-1,4-phenyleneiminocarbonyloxy-1,6-hexanediylloxy-1,4-phenylene(phenylimino)-1,4-phenylene(2-cyano-1,2-ethenediyl)-1,4-phenylene(1-cyano-1,2-ethenediyl)-1,4-phenylene(phenylimino)-1,4-phenylene] (9CI) (CA INDEX NAME)

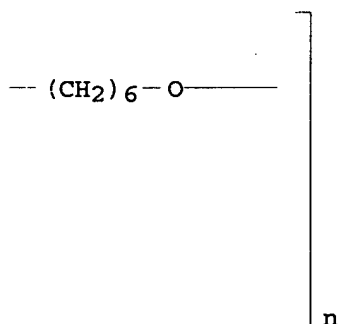
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- CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 36, 76
- ST **electroluminescence** polyurethane emissive charge transporting chromophore; **luminescence** electro polyurethane charge transporting chromophore
- IT Chromophores
(**electroluminescence** from polyurethanes with emissive and charge-transporting)
- IT **Luminescence, electroluminescence**
(of polyurethanes with emissive and charge-transporting chromophores and their blends)

IT Electroluminescent devices
(polyurethanes with emissive and charge-transporting
chromophores and their blends)
IT 184533-97-9 184533-98-0
(electroluminescence of emissive and
charge-transporting chromophores and their blends of)